



*Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.*

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NO. VI.

A. B. ALLEN, Editor.

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#### APPLICATION OF LIME.

LORD DUNDONALD, an English nobleman, who spent most of his life and fortune in experimental farming and gardening, states in his "Treatise showing the Intimate Connection that subsists between Agriculture and Chemistry," published in 1795, that lime, when easily procured and properly slackened with water, immediately spread on the ground and plowed in, if applied in great quantities, will occasion a too immediate dissipation in a gaseous state, of the vegetable matters contained in the soil, from which the succeeding crops can only be benefited by the proportion it is able to receive during the dissipating process. Hence it is manifest that an economical and frequent application of lime, in moderate quantities, either mixed with peat or other vegetable matter, or even by itself, is greatly to be preferred to those abundant dressings of lime usually given at one time, which cause an action on the soil more powerful and violent than is conducive to, or compatible with, a continued state of fertility. In short, lime should be considered in a chemical and medicinal point of view, when so applied, acting as an alterative, corrector, and a decomounder; a disengager of certain parts of the animal and vegetable substances contained in the soil, and as a retainer and a combiner with others; and is not to be regarded by the practical farmer as a substance fit for the immediate food and nourishment of vegetables, like dung, or decayed vegetable or animal matters. For, although calcareous matter, or lime, forms a component part of vegetable and animal bodies, still the quantity that can be obtained from the annual produce of most crops, from an acre of ground, will not exceed eighty pounds weight. This fact has been well ascertained, and if proper attention be paid to it in regulating the conduct of the agriculturist, in the future applica-

tion of lime, it will prove more satisfactory than all the chemical reasonings adduced in his treatise.

#### IRON HURDLE FENCE.

WE have frequently been asked the cost of this kind of fence. Through the politeness of a gentleman of this neighborhood, who has just made an importation to enclose his pleasure grounds, we are enabled to give full particulars as to its cost, size, &c. Each hurdle or panel is 6 feet long and 5 feet high, with a post in the centre, thus making the posts 3 feet apart. The posts are of flat bars of iron,  $1\frac{1}{4}$  by  $\frac{1}{2}$  of an inch. There are five bars in each panel. These are of round iron,  $\frac{1}{2}$  of an inch in diameter. The weight of each panel is 75 lbs.; costing, laid down in this city, with duties, freight, and all expenses paid, 4 cents per lb., or \$3 per panel, or 50 cents per running foot, of the fence. A well made picket fence, with locust posts, costs 38 cents per foot. With the exception of the posts, this would require renewing every fifteen or twenty years. The iron fence will last a century or more. It is consequently much the cheapest in the end, besides being far more ornamental; it also has the further advantage of not obstructing the view—indeed at the distance of 100 yards it can scarcely be seen. It can also be taken up at any moment with great ease, and set in any other place desired, it being moveable at will. The iron posts have spreading claw-feet, which are inserted in the ground, and hold it up very strong. The panels are joined by two bolts passing through holes bored in the posts, and then screwed up tight with a nut.

The above is the heaviest kind, called ox-iron hurdles, the fence standing strong enough to resist the most unruly animal. We can recommend this kind of fence highly, having seen it in extensive use in England, and in a few places in the United

States. We will import it in any quantity to order. A lighter kind can be had if desired, which will come something cheaper per foot. Of course it will not be as strong as the ox-hurdles.

#### THE STABLE.—No. 9.

WE recur again to the subject of biting, as our cut for this month illustrates another method of managing the biter. The instrument as shown serves a triple purpose, viz., it is a muzzle to prevent biting, crib-biting, and wind-sucking; no article about a stable is of more use, where there are vices requiring its use. An inspection of it will render a description needless. It is of iron, and is to be attached to the leather of the head-stall; it should be riveted on fast, to secure its constant use, where it is required.

Many valuable horses, as we have before mentioned, are incorrigible biters; and yet they are so valuable that they must be kept. Of this kind was imported Messenger, the source whence came our best strains of road horses. He killed at least two men, and yet was preserved. He did it by his teeth and fore feet. He caught them (his grooms) in his teeth, and forced them under his feet, when he bit and stamped them to death. Had his mouth been muzzled he would have been harmless, for no horse ever does mischief with his fore feet until he has first used his mouth, except, as is sometimes the case, when a stallion will rear on his hind legs and strike with his fore ones. Such as these last rarely ever bite, and never rear in the stable, and of course muzzles are useless to them. They are safe in the stable, and only dangerous out of it when they have length of bridle rein allowed them. If the groom keeps them close, by the head, they are harmless. Sometimes, however, it is necessary to give them their heads. To guard against their striking at such times there should be a thong in the head-stall of the bridle, which may, by a jerk of the rein, be forced into the skin. This will quickly bring the horse to the groom, and make him quiet, and will, after a few repetitions, teach him better manners. But even if the thong be not attached to the bridle, the groom can easily avoid such a striker; he rears at some distance from the groom; his movement is seen; he cannot readily move on his hind legs, and then but in one direction. If the groom steps aside, and jerks the bridle rein as the horse passes, he is brought to the ground, and is at command on shortening the rein.

But if he first seizes with his mouth, and then strikes with his feet when within the grasp of his jaws, the groom is at once in the power of the horse, and teeth and feet soon do fatal execution. Against just such a danger the iron bar muzzle of our cut is a perfect preventive. The groom cannot be brought under the feet of the horse until within the gripe of his jaws. Here the muzzle is the security. It is used in this manner—it is attached to the halter (which should always have a secure throat-latch); what in the halter is ordinarily a leather nose-piece, or strap, is in this muzzle iron; the side straps are of leather; to these should be sowed a buckle; the bits and reins of a bridle may be buckled on to them, and the halter then becomes a bridle, with the muzzle on. If the horse be a

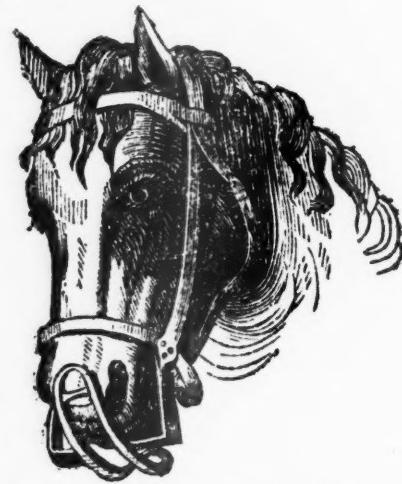
biter out of the stable as well as in, then keep the muzzle on always. If he be not, then take it off when he is to be brought out.

The cross-bars in front of the mouth are close to the lips; this leaves the horse free to eat his hay and grain with the muzzle on; and will admit his eating grass if the pasture be not close-cropped or mown. His breathing is not at all affected, and is as free as without the muzzle.

The expense of this muzzle is small, and any smith may make it. The cross-bars should be riveted on, and not welded.

Crib-biting and wind-sucking are effectually prevented by this muzzle.

The crib-biter is so called because he seizes the manger (*crib* as it is called in the Saxon language, *manger* in French; *crib* being the word formerly used to designate what *manger* now does), and swallows air. When the teeth are firmly grasped on the manger (or any other object which is firm and the mouth can enclose), the horse arches his neck, settles back slightly on his quarters, and braces with his fore feet, and with a grunt swallows or gulps air into the stomach; this he will continue until he is filled. A crib-biter can never be in order; his belly will be distended, and his breathing restricted and laborious; he will be flatulent, and constantly breaking wind, and frequently attacked with colic. All these added will keep him ever lean; and the colic will at times unfit him for work entirely, and even endanger or deprive him of life.



CRIB-BITER.—FIG. 46.

The crib-biter cannot swallow air unless he has his teeth grasped on something. This the muzzle of the cut prevents, and yet he can feed. By this, then, a crib-biter's habit may be broken up, and he be rendered sound and useful.

Wind-suckers differ from crib-biters in this, they place the teeth closed against the manger (or anything else that is near, if it be firm) and swallow the air, but not with so much grunting and gulping. The results are the same. For the wind-sucker the muzzle is a remedy. The nose strap should be of leather, and should be buckled tight, so that he cannot force his nose so far down as to place the teeth against the bars; for if he can, he will wind-suck as well with it as without it.

A strap is frequently used to prevent wind-sucking and crib-biting. It is buckled around the neck

close to the head. It certainly prevents the vice, but it endangers the horse, and when long used is sure always to bring on derangement of the wind-pipe; by its use roaring and inflammation of the throat and such diseases are frequently produced. The muzzle is a better preventive, and is free of danger in every respect. There are horses, however, that will wind-suck without placing their teeth against the manger. Such horses can be controlled only by the strap, and on them it must be used. With it they are in danger, but may be useful; without it they are useless, and of course worse than worthless, for they consume and pay not.

We have now brought our stable articles to a close for the present, and are happy to say, that they have had some influence with the public, especially in their arrangements for proper ventilation. Several gentlemen in this city and elsewhere, have availed themselves of hints thrown out in these numbers, and have constructed new stables on a plan highly to be commended. We shall probably give illustrations and descriptions of one or two of these hereafter. To conclude, we say, give your horses plenty of fresh air, but keep them out of the cold, damp currents; and, furthermore, sweeten the atmosphere in the stables, and around the premises, by sprinkling plaster of Paris, or charcoal dust, or both, over the straw and floor, and in the manure. These substances fix the ammonia arising therefrom, and are in themselves highly fertilizing, so that they not only render the atmosphere pure around, but add to the value of the manure heap. By following our directions, disease will scarcely be known in stables, and they will no longer be considered as nuisances in the vicinity of a gentleman's residence.

#### GRASS AND HAY.

As the season for securing the hay crop is at hand, we solicit from our friends who are curious, yet economical, in matters of this kind, to give us condensed statements of well-tested experiments of their mode of culture, and of curing this valuable crop. The following extract of a letter from Mr. Isaac Bowles, of Winthrop, Me., to the Awarding Committee of the Kennebec Co. Agricultural Society, will show what may be done, even among our eastern neighbors, when proper means are employed:—

"The soil on which my crop of hay grew, is a very deep yellow loam, with a clayey rocky sub-soil. In the spring of 1841 it was plowed, and about forty loads of compost manure were evenly spread over the piece, and planted to corn. In the spring of 1842 it was plowed and sowed to wheat. I sowed 30 lbs. of red and white clover and one peck of herds grass seed. On the 26th of June, 1843, my hired help cut the grass of the first crop, which had not at this time arrived to heading out, and the fifth day after, it was dry enough to haul to the barn. The quantity of hay was ascertained by putting up the cocks as near of an equal size as we could judge. One or more, not larger than an average lot, of the same, was weighed, and computing the whole number of cocks by that, found these contained 5 tons, 9 cwt., 90 lbs., on one acre

and one quarter of land. The second crop was cut the fifth day of September. From this crop there was 1 ton, 8 cwt., 17 lbs., from the same land, making in the whole 6 tons, 18 cwt., 7 lbs."

Mr. Bowles, we understand, first prepared his land some years ago for a crop of Indian corn, and raised one hundred and sixteen bushels to the acre.

#### SCOTCH LACTOMETER OR CREAM-GAUGE.

The object of this instrument is to ascertain the proportion which the cream bears to the milk, of any particular cow, or the produce of a whole dairy. If new milk is poured into graduated glass tubes, and allowed to remain, the division between the cream which floats upon the surface of the milk will be so clearly defined, that its depth may be easily measured; and should the milk from any cow produce more cream than that of another, the difference will be seen by the divisions or marks on these tubes. The lactometer consists, then, of two or more glass tubes, half an inch or more in diameter, and eleven inches long, fitted into an upright wooden frame; each tube having a fine line drawn round it, ten inches from the bottom; three inches from the line downward it is graduated into inches and tenths of inches. At the time of milking each tube is to be filled up to the top line with new milk. After standing twelve hours, the quantity of cream which floats upon the surface will be shown by the scale of inches and tenths; each division representing one per cent. of the whole.

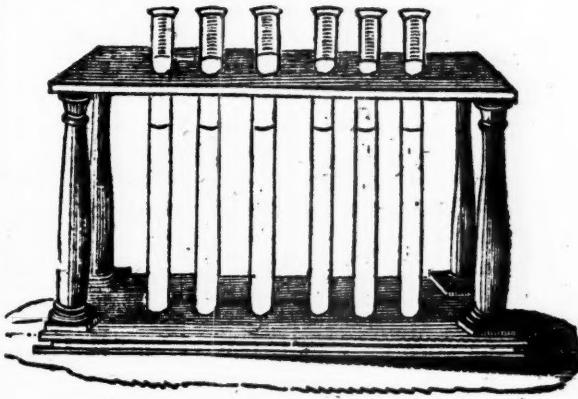


FIG. 47.

If the amount given at one milking be a gallon, or eight pints, and the thickness or depth of cream which floats upon the surface of the milk in the tube, occupies 14 divisions, or one inch and four-tenths of the scale, multiply the number of pints in a gallon, 8, by the depth of the cream, .14, and the result will be the produce of cream of that gallon, namely, 1.12, or one pint and twelve hundredths of a pint.

Care must be observed to fill the tubes as soon as the milk is taken from the cow; for, should any delay take place, a portion of the cream will have risen towards the surface. The milk to be tested should be taken from the middle of the pail, which may be done by dipping a small pot below the froth.

MUCK is the mother of the meal chest.—Old Scotch Saying.

## NEW YORK FARMERS' CLUB.

THIS branch of the American Institute continues to hold its meetings, as usual, on the first and third Tuesdays of each month, free of charge. At the last three sessions various topics were discussed, among which were the feeding and management of stock, and the nature and application of Indian corn and other grains.

*Soiling, &c.*—Dr. H. A. Field stated that he had found during summer, that it was a bad practice to change the food of cattle often. From feeding on clover, or oats cut green, and putting them suddenly upon green corn-stalks, he found that his cows became thin. His method of soiling them was as follows: To select a piece of land neither wet nor very dry, and make it as rich as possible by manuring, at the same time studying economy. In September, sow rye—double seed it—it will come early in spring; then sow oats, clover, and the common field pea, which will be of a heavy growth. After the rye is off, sow Indian corn broad-cast; cut the stalks while they are green and tender, before it has tasseled. You can have two, and even three or more, such crops of corn in a season, by beginning early and continue to sow for several weeks in succession. Thus, you can sow rye in September, oats, peas, and clover, early in spring, and corn in early summer. If this green food should cause diarrhoea, give the cows for a while dry feed. In this way you can keep up your green crops from snow to snow! He said that four of his cows which were stabled in winter, and soiled in summer, after this plan, had yielded about \$300 worth of milk the year past, sold to certain hotels in summer, for two and a half cents a quart, and for four cents a quart in winter. Two cows which gave only five quarts daily each, produced eleven quarts each after being stabled and well fed.

*Remedy for the Heaves.*—Mr. Hancock presented the following recipe for thick-windedness or heaves in horses:—

Take 180 grains of tartar emetic, and divide it into three equal doses of 60 grains each. Mix one of them in wet bran, and give it to the horse. Repeat the dose once in two days, and his disease will be greatly alleviated, if not perfectly cured.

*Arracacha.*—Mr. Meigs read an interesting paper on the arracacha, an umbelliferous plant, found wild in the elevated regions of equatorial America, where it is also cultivated for the sake of its root. In the Andes of Popayan, Los Pastos, and New Granada, it is as extensively grown there as the potato, and is far more productive than that plant, yielding, according to some statements, sixteen tons of roots to an acre, while the potato does not average more than nine or ten tons. It is said, however, to be somewhat less nutritious, as it contains a larger proportion of water. The root of the arracacha resembles that of a gigantic parsnip, with numerous fangs, and in flavor is thought to be something between that of the parsnip and roasted chestnuts. Each root is said to weigh from four to six pounds, when grown on good land, and serves as an excellent article of food. But the question naturally arises, will it grow in the open air in any part of the United States?—a question that can only be answered by actual experiment. The tem-

perature of the Andes where the finest fields of this plant occur, varies from 64° to 82° F., where there is no frost, no cold weather, nor dry summer heats, where it must have six months of favorable weather to perfect its growth. From various experiments made in different parts of Europe, it will not bear frost, and very dry weather is equally fatal to it; and besides, it is a difficult crop to preserve through the winter, owing to its great proneness to decay. Consequently it would be ill adapted to the northern, and in most seasons, to the middle sections of the Union. Should this plant ever succeed in the United States, as a field crop, the mountainous parts of the Carolinas, Georgia, and of Texas, will probably be the theatre of operations.

*Composition of Corn, &c.*—Mr. Browne presented specimens of several varieties of Indian corn, accompanied by a diagram showing the chemical proportions of the various kinds of corn, beans, peas, &c., from original experiments made by Dr. C. T. Jackson, of Boston. He also repeated several of the experiments, as illustrated by the diagram, and showed the proportions of starch, dextrine, and phosphates, contained in the corn, with the view of proving that the ingredients of which the different varieties are composed, are not uniform, and consequently the analysis of one kind alone cannot be of much practical advantage when applied to the whole. In splitting open, longitudinally, some kernels of Tuscarora corn, and dropping upon them a small quantity of the tincture of iodine, nearly all of their bulk was instantaneously changed from a pure white to an intense blue, indicating the presence of starch, with here and there a deep port wine colored speck, which defined the parts composed of dextrine. In treating some rice corn and pop corn in the same manner, only slight traces of starch were manifested, showing, conclusively, that the proportions of the ingredients of which the two varieties are composed, are widely different. Again, in soaking some split kernels of sweet corn in a solution of sulphate of copper (blue vitriol), the *chits* or parts containing the germs, were changed to a bright green, beautifully defining the limits of the phosphates of lime and magnesia contained in the corn, and indicating more than double the quantity than the Tuscarora variety contained when treated in the same way.

*Corn Oil.*—The horny or flinty portions of corn, Mr. B. remarked, when viewed in their sections under a good microscope, will be found to consist of a great number of six-sided cells filled with a fixed oil, which has been successfully employed for the purposes of illumination. He said that he had been informed from a credible source, that there is a distillery in the vicinity of Lake Ontario, where this oil is extracted, at the rate of sixteen gallons from one hundred bushels of corn, leaving the remaining portion of the corn more valuable and in better condition for distillation, than before the oil is extracted.

*Popping Corn.*—On this oil, added Mr. B., depends the popping qualities of corn. For when the kernels are heated to a temperature sufficiently high to decompose the oil, a sudden explosion takes place, and every cell is ruptured by the ex-

pansion of gaseous matters arising from the decomposition of the oil, and the grain is completely evolved and folded back, or turned inside out. This property, continued he, is remarkably strong in the pop corn, and is common, in a greater or less degree, in all kinds of corn that abound in oil; but those varieties destitute of a horny covering, as the Tuscarora, and white flour corn, will not pop under any circumstances whatever.

*Recipe for making Corn Bread.*—The Committee appointed to select the best recipes for cooking and preparing Indian corn for food, obtained from Judson's Hotel, No. 61 Broadway, one of the best public houses in New York, the following direc-

tions for making corn bread, which they specially recommended to public attention:

Take 1 quart of sour milk, add the beaten yolks of 8 eggs, and a handful of Indian meal, briskly stirring the mixture while adding the meal. To this add a little saleratus, 2 tablespoonfuls of melted butter, and stir in alternately the beaten white of the eggs, and a sufficient quantity of meal to form a smooth batter of the consistency of hasty pudding. Then quickly turn the mixture into well buttered tins, and bake in a brisk oven. The time required for baking will depend upon the size and thickness of the bread. For smaller parcels one-half or one-fourth of the above-named materials may be used.

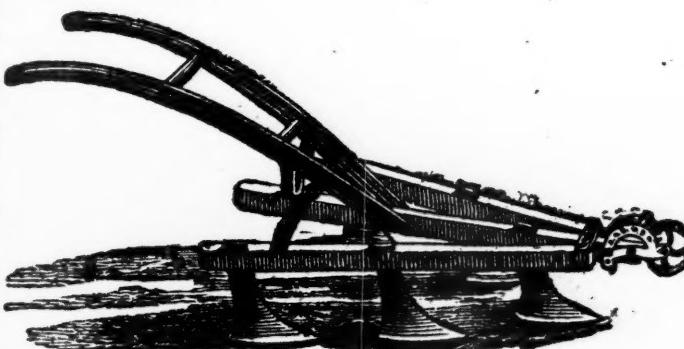
#### THE CULTIVATOR.

CULTIVATORS are of various kinds; we could enumerate at least twenty. The general form of them, however, is essentially the same, the greatest variations being in the teeth. Of these some are made of a triangular flat shape, like those represented in our cut; others like a small hoe blade or chisel, with sharp edges at the sides as well as at the front; others again with reverse teeth, which, when the point of one end is worn off, can be turned and used at the other end. In addition to these, coulter or harrow teeth are frequently added, and sometimes the two hind teeth are made like a plowshare, to throw the soil to or from the crops as desired, while the middle teeth stir the earth effectually, and cut up the weeds between the rows.

The cultivator should always be made to expand and contract at pleasure, so as to accommodate itself to different widths of space between the rows. One kind may expand from  $2\frac{1}{2}$  to 5 feet or more, another from  $1\frac{1}{2}$  to 3 feet. They are admirable implements to stir the ground and destroy the weeds, and for these purposes they will do the work of two or three plows. They are absolutely indispensable on the farm and plantation, and in the garden.

The celebrated Tull was the first who used cultivators to any extent. He contended that repeated stirrings of the earth were equivalent to manuring it; and in triumphant evidence of this, he pointed to a poor field where he had grown crops for thirteen years without manure, or summer fallowing, or plowing in a single green crop to fertilize it; and yet his last crops were the best. He even sowed wheat and other grain in drills or rows so wide apart as to be able to work the cultivator between them, and thus obtained on a poor soil 48 bushels per acre!

We have recently greatly improved our cultivators by strongly iron bracing the handles to the timbers, and lengthening and setting them more slanting. This gives the operator greater power over the implement, and makes it easier managing it. A wheel is set on to the end of the cultivator or not, as desired. This is useless in very uneven or rocky ground; but when the surface is tolerably smooth it is very desirable, as it makes the cultivator move easier and steadier, and with it the teeth can be exactly gauged, to work the ground any required depth.



CULTIVATOR.—FIG. 48.

The price varies from \$5 to \$8, according to the size and the number and kinds of teeth required in it.

*The Hand Cultivator.*—This is made entirely of iron, except the handle, and will expand from 10 to 18 inches. It is a very useful implement in the garden for clearing out the rows of beets, carrots, parsnips, and indeed everything sowed in drills, raking up beds, &c. It will do the work of four men at least. Price \$3.

LONG ISLAND HORTICULTURAL SOCIETY.—This Society has been recently organized under highly favorable auspices, and holds its first semi-annual exhibition on the 11th and 12th of this month, commencing at 10, A. M., and closing at 10, P. M. There will doubtless be a rich and varied display of fruits and flowers, and we hope all who are interested in such shows will make it a point to attend, and exhibit as much as is in their power. Extra lines of stages and steamboats will ply between this city and Flushing during the days of exhibition, for the accommodation of those wishing to attend. Messrs. Wm. W. Valk, Robert B. Parsons, and G. Winter, of Flushing, are the committee of arrangements.

SUFFOLK HOGS.—Mr. William Stickney, of Boston, Mass., some time since sent us three of his delicious pork hams, made from the Suffolk breed of pigs, one of which we presented to the American Agricultural Association, and one to the Farmers' Club of the American Institute, nicely boiled and garnished. They were discussed both mentally and physically, and pronounced to be superior to anything of the kind ever tasted. The third ham was presented to the New York Lunatic

Asylum, the qualities of which are to be tested by the Board of Trustees, at their next monthly visitation, from whom we hope also to have a favorable account. The Asylum has a very superior stock of white hogs, to which the superintendent has lately introduced a fine Suffolk boar, procured from Mr. Stickney, with the view of still further improving them.

#### THE ALPACA.—No. 1.

THE following information relative to the nature, uses, and history of the alpaca, or Peruvian sheep, has principally been drawn by us from a gentleman who has travelled extensively in South America. In addition to considerable personal observation, he appears to be well read in the works of the early Spanish writers on the subject; and with a view to their ultimate introduction into the United States, he has kept a vigilant eye upon the more recent movements to domesticate them in Spain, France, and Great Britain.

By what we can gather from various sources, we are led to believe that there are at least three kinds of Peruvian sheep, namely, the *Guanaco* or *Llama*, the *Paco* or *Alpaca*, and the *Vicuña*, which agrees with the classification of Baron Cuvier, who regards the alpaca as a mere variety of the llama, and who considers the vicuña as the only animal in the group that deserves to be specially distinguished from the latter. This also agrees with the opinion of our informant, who cites Inca Garcilasso de la Vega, as saying, in the year 1611, that "the domestic animals of the Peruvians are of two kinds, the greater and the smaller, which they, as a common name, call *llama*, that is, cattle or sheep. The larger kind they call *huanacu-llama*, on account of the resemblance it bears to the wild animal known in Peru by the name of *huanacu*, from which it differs only in color; for the domestic llamas are to be met with as various in their colors as horses; but the wild llamas are uniformly of a chestnut-color. The larger kind bears a great similitude to a camel, except that it is deficient in the hump upon its back, and is not so large. The small kind they call *paco-llama*, which is only reared for its flesh and wool. The *vicuñas* are not very unlike goats in their appearance, except that they have no horns, are larger, and are of a leonine color, or more ruddy. They live in the highest mountains and groves, and particularly love those cold regions of solitude, which the Peruvians designate by the common name of *punas*; neither are they annoyed by frost and snow, but are rather created by them. They go in flocks, and run most swiftly; and such is their timidity, that at the sight of man, or wild beasts, they instantly hurry into inaccessible retreats, and thereby elude their pursuits. There were formerly a great number of these animals here, but they are now become much more rare, in consequence of the promiscuous license of hunting them. Their wool is very fine, resembling silk, or the fur of the beaver, and the natives deservedly hold it in high estimation; for, besides other properties, it is also said to resist heat and impart coolness to the wearer."

The order of animals to which the Peruvian sheep belong, offers to the eye of the naturalist but a very small anatomical difference of conformation

from that containing the camel properly so called. Their feet are not, like those of the camel, entirely padded with an elastic sole, but their two toes are separated, each having strong, horny nails or hoofs, nearly resembling the talons of a bird, with a thick cushion or pad beneath. They are also dissimilar in the formation and arrangement of their teeth, having on each side of the upper jaw one canine tooth more than the camel, and want a second canine tooth in the lower jaw. According to Walton, their "incisors project full half an inch from the muzzle bone, so as to meet the pad fitted above, by which means, and with the aid of the tongue and cleft lip, they are not only enabled to draw together, and clip short grass upon the ground, but also, with their long necks, pointed muzzle and the oblique posture which the head can assume, to reach herbage growing on the ledges, and in the interstices of rocks seven feet high, as well as the tops of hedges and tall shrubs. Their teeth are, at the same time, so strong, and interlock in such a manner, that they easily crush and masticate vegetable substances too hard and tough for ordinary cattle." The absence of the hump, and of the callosity on the breast, also constitute striking points of difference between these animals and the camel. The llama, however, according to Molina, has a conformation resembling the camel's hump, being provided with an excess of nutritive matter, which lies in a thick bed of fat under the skin, and is absorbed as a compensation for an occasional want of food.

Some of the Peruvian sheep, as in the camels, have callosities on the knees of the fore legs, and, like them, kneel down in the same manner. Their stomachs and those of the camels, are, in some respects, similarly organized. That of the llama, according to Sir Everard Home, "has a portion of it, as it were, intended to resemble the reservoirs for water in the camel; but these have no depth, are only superficial cells, and have no muscular apparatus to close their mouths, and allow the solid food to pass into the fourth cavity, or truly digesting stomach, without going into these cells." But the stomachs of the Peruvian sheep certainly must have some kind of internal mechanism for retaining water, or secreting a liquid substance; for it has been remarked, along the flanks of some parts of the Andes, that they live far above any lakes or streams, and abstain from drink a great portion of the year; and further, it has been observed, that, in a state of domestication, they never manifest any desire to drink so long as they can obtain an abundance of succulent herbage.

From the peculiar organization of both the camel and the llama, we are led to infer that each is evidently fitted by nature for the endurance of great hardships and privations—"the one amidst the sands of the desert, under a burning sun—the other on the wastes of some of the loftiest mountains of the world, with a region of perpetual snow above them. The slight variations of their conformation, such as that of the foot, are modifications of nature which fit them for their respective localities. A habitation amongst the rocks would be mechanically impossible for the camel; whilst the burning plains would be as little suited to the llama."

## MR. RANDALL'S MERINO SHEEP.

MR. BINGHAM, in his reply to my remarks in your Feb. No., does no injustice to my motives in instituting the comparison I did between the Rambouillet flock purchased by him of Mr. Collins, and that of Col. H. S. Randall of this place, though he finds a different reason for the liberty I took, than the one which actually influenced me. I did not in the least design to disparage the former. But Mr. B. cannot be unaware that comparisons *have been before* instituted between these flocks, that Col. R. invited Mr. Collins to show some of his sheep against an equal number of his own at Poughkeepsie, in 1844, and that a spirited correspondence took place on the subject in the public prints. I will do Mr. C. the justice to say, that his declining to show did not prove the inferiority of his sheep. Breeders are not *bound* to accept challenges of this kind. But I mention the fact to show that I was not so far wanting in courtesy, as to single out a particular flock to compare with Col. R.'s, without, as I supposed, finding my warrant for so doing in circumstances of public notoriety.

The weights heretofore published in the Agriculturist of Rambouillet fleeces referred to by Mr. B., have been invariably, I believe, of *unwashed* wool. This is a poor test, certainly, if any test at all. Wool ordinarily loses from one-third to one-half in washing, and it might be so dirty as to lose far more. There can, therefore, be no approach to certainty by any such criterion. Mr. B. will doubtless give us better data to judge by the present year.

Mr. B. says—"Doctor Emmons is doubtless a good geologist, and meant to make a fair trial of the samples, but how much does he know about wool and sheep?"

The editor of the American Quarterly Journal of Agriculture was bred a Connecticut farmer boy, and for one who has made agriculture a "secondary matter," is supposed in this State to be very familiar with the subject in all its branches. Else greatly did our Executive err in entrusting to his hands the volume on Agriculture in our magnificent "Natural History," one of the noblest monuments of New York greatness. Thus much to vindicate Doctor Emmons from the imputation of presumption in speaking of these matters. But, after all, a practical or theoretical knowledge of agriculture has very little to do with the simple experiments of testing with optical instruments and weights the diameter and strength of wool.

And now to Mr. B.'s inquiry, "How was the exact diameter of each specimen ascertained—by guess-work, by measurement, or by counting the number of fibres constituting the cord to be broken by weights."

The strength of fibre was ascertained by attaching minute weights to a single one until it broke. This was repeated a number of times, and the mean or average weight which fibres of each variety of wool would support, was given as the test of strength of that variety. The diameter of the fibres was ascertained by an optical instrument of great magnifying power, throwing (like the camera lucida) the image of the wool on a measured scale. This instrument, an elegant and expensive one, designed for this express purpose, is a **PERFECT TEST** of the superficial size of any minute object submit-

ted to it. If Mr. B. desires any more minute account of this experiment, he will find it, with drawings of the wool (of Col. R.'s prize ram, Mr. Collins' Grandee, and various others) in the first vol. of the Amer. Quar. Jour. of Agriculture.

So far as *fineness* is concerned, Mr. B. will see that the evidence is conclusive in favor of Mr. R.'s prize ram, and against Grandee. On the subject of strength, Mr. B. suggests that the wool of Grandee might have "lost strength by age, repeated handling and pulling, and the wear and tear of being carried in some wallet in some man's pocket till half of its original strength was probably gone."

I have seen part of the specimen from which Doctor E. selected. He received it from an honorable source. It was understood by me to be recent wool, and had never been carried about in any man's pocket, and evidently had been submitted to no injurious treatment. Every serration showed the original, and it gives me pleasure to say, beautiful character of the wool.

The wool from the Merinos of "early importation" was "old." I doubt whether this would much affect its strength, if preserved with care. I have never known a wool or cloth buyer particular about the age of the article, provided it was in proper condition. I state the fact, however, let each one draw his own inference. The sheep referred to, were those imported by Seth Adams into Massachusetts, and were not, that I am aware, Rambouilletts, as Mr. B. erroneously infers I meant to intimate. The specimens tested were given, I learn, by Mr. Adams to Sanford Howard, Esq., junior editor of the Cultivator.

As to the length of leg of the Rambouilletts, I am still constrained to differ with Mr. B. The best judges in this country consider them decidedly inclining to this fault.

Mr. B. says I am largely the owner of American Merino sheep of a very similar character to Mr. Randall's. Is Mr. B. sure of this? Has he seen Mr. Randall's flock? He bases this supposition on the fact that Mr. R. has purchased sheep in Vermont which he has highly commended to the public. There is a family of Merinos in Vermont—the most common one claiming purity of blood—with heavy carcases and heavy medium quality and rather uneven fleeces, and to this family I have been led to suppose Mr. B.'s belong. Col. R. purchased some such, but soon got tired of them. He now breeds an entirely different quality of sheep, with far finer and evener fleeces, and is attempting, and apparently successfully, to preserve the weight of fleece of the Vermonter, with a fineness approaching to the Saxon. By far the best ram in my opinion now owned by him, was bred by himself, and he unites these qualities in a very remarkable manner.

I do not wish to be understood as classing all the Vermont Merinos with those above alluded to. Col. R. has some of the best ewes I ever saw from Vermont. But they differ most palpably from the common stamp which I have described. -

As for the exhibition of fleeces proposed by Mr. B., I cannot say what Col. R.'s views would be. I am not authorized to speak for him in the premises.

*Cortland Village, April 2, 1846.*

P.S. Since writing the above I have been at the pains to see Col. R., to obtain his views in relation

to the above proposed exhibition of fleeces. He says the exhibition of two or three fleeces would be no test of the quality of a *flock*, that he cannot reserve a large number of fleeces for comparison, but that he would willingly allow Mr. B. to compare 30 or 40 samples of his Rambouillet wool with an equal number from his (Mr. R.'s) flock, the weight of washed fleece being attached to each such sample, at the next N. Y. State Fair.

#### GARDENING.—No. 4.

*Geographical Distribution of Vegetables.*—This branch of the study of horticulture points out the grand features of the immense extent which plants occupy, from the regions of perpetual snow to the bottom of the ocean, and to the interior of the globe. The *superior* limits of vegetation are known, but not the *inferior*; for everywhere in the bowels of the earth are germs which develop themselves when they find a space and nourishment suitable for vegetation.

The territorial limits to vegetation are determined in general by three different causes; by sandy deserts, which seeds cannot pass over either by means of winds or birds; by seas too vast for the seeds of plants to be drifted from one shore to the other; and by long and lofty chains of mountains. To these causes are to be attributed the fact, that similar climates and soils do not always produce similar plants. Thus, in some parts of North America, which resemble Europe in respect to soil, climate, and elevation, not a single European plant is to be found in a natural state. The potato, first found by the Spaniards on the Western continent, does not grow naturally in like situations on the Eastern. There is scarcely a single plant found in Africa that grows wild in South America, and the splendid dahlia of Mexico was never found upon the steppes of Asia.

*Physical Distribution of Vegetables.*—The natural circumstances affecting the distribution of plants, are temperature, elevation, moisture, soil, and light. Some plants belong to mountains, some to valleys, and others to plains. Every species of soil has vegetables peculiarly adapted to it. Some plants are confined to water, and some to moist regions, while others grow only in dry tracts, or on the surface of naked rocks. Some require the hottest climate, and some a climate that is temperate, while others will thrive only in the midst of frost and snow. In this way, nearly the whole surface of the earth is covered with vegetation, and plants are found even in the dark vaults of caverns, and in the beds of the sea. Some plants will flourish with a high degree of heat, for a short time, although it is followed by severe cold; others require only a moderate degree of warmth, longer continued, and are adapted to elevated regions. Many plants will flourish where trees will not, and some approach the region of perpetual snow. Those regions where no other vegetable will grow, are provided with the hardy lichen (capable of supporting men and animals), which is found beneath the snow in the depth of winter.

Temperature has the most obvious influence on vegetation. In this respect, not only the medium temperature of a country ought to be studied, but

the temperature of different seasons of that country. In advancing north from the polar circle, the birch, which bears the severity of the cold best, dwindles in size, till at last it ceases to grow at 70°, the point where man gives up the cultivation of grain. North of this, shrubs, bushes, and herbaceous plants only are to be met with. Wild thyme, creeping willow, and brambles, cover the face of the rocks, and the arctic cloud-*berry* here assumes its most delicious flavor and perfume. Shrubs next disappear, and their place is supplied by the saxifrage, primrose, and the low-flowering herbs and grasses; then comes the lichen, which covers vast tracts of country, and beyond this we find only a naked, sterile soil, and perpetual snows. On the borders of the temperate zones the evergreens commence. The potato, cabbage, turnip, and similar garden vegetables, may be cultivated, and cranberries, whortleberries, and currants, are the only fruits. In the northern parts of these zones, the apple, pear, and fruits of the cold regions are produced in perfection; but in the southern parts these fruits often lose their finest flavor, and in some instances degenerate entirely, near the borders of the hot or torrid zone. Here the wine-grape, peach, almond, and apricot flourish; here we first meet with the olive and the fig, and in Europe, the orange and lemon, and as we proceed towards the tropics, we find the sugar-cane, coffee, and date. The orange, lemon, citron and fig, are here of the most delicious flavor, and still nearer to the equator the various species of palm characterize these regions. Some of the trees of the torrid zone attain a size, of which a native of northern countries can scarcely conceive. The mighty baobab, on the plains of the Senegal in Africa, is found with a trunk 50, 60, and even 70 feet in circumference, and one of the leaves of the fan-palm is often of sufficient size to cover ten or a dozen men.

Elevation, or the height of the soil above the level of the sea, affects climate much in the same manner as latitude; while, at the same time, it occasions a material difference in atmospheric pressure. This diminished pressure is one of the causes of the diminutive size of plants, grown in elevated regions. Experiments have been made to prove this, by causing seeds of barley to germinate in soil placed in vessels under different degrees of atmospheric pressure; and the result has been, that where the pressure was greatest, the vigor of the plant was greatest also. In ascending the mountains of the torrid zone, as the elevation varies, each section has its own distinct plants, and we find in succession the productions of every region from the equator to the poles.

Moisture, or mode of watering, natural to vegetables, is a circumstance which has a powerful influence on the facility with which plants grow in any given soil. The qualities of water, or the nature of the substances dissolved in it, must necessarily influence powerfully the possibility of certain plants growing in certain places. But the difference in this respect is much less than would be imagined, because the food of one species of plant differs very little from that of another. The most remarkable case is that of salt-marshes, in which a great many vegetables will not live, whilst a

number of others thrive there better than anywhere else.

The soils suitable for the maintenance of the various kinds of vegetable productions may be brought under the five following heads: 1. Primitive soils. These affect vegetables mechanically, according to their different degrees of moveability or tenacity. In coarse, sandy surfaces, plants spring up easily, and are as easily blown about and destroyed. In fine, dry, sandy soils, plants, with very delicate roots, prosper; a similar earth, but moist in the growing season, is suited to bulbs. 2. Mixed or secondary soils include not only primitive earths, but vegetable matters; not only the medium through which perfect plants obtain their food, but that food itself. 3. Aquatic soils are such as are either wholly or partially inundated with water, and are fitted to produce such plants only as are called aquatic. 4. Earthy soils are such as emerge above the water and constitute the surface of the habitable globe, that is everywhere covered with vegetable productions. 5. Vegetable soils are such as are formed of vegetating or decayed plants themselves, to some of which the seeds of certain other plants are found to adhere, as being the only soil fitted to their germination and development.

Light is a body which has very considerable influence on the structure of vegetables, and some also on their habitation. The fungi can live and grow with little or no light, while green plants require light, though of different degrees of intensity. Some require shady places, and hence the vegetable inhabitants of caves, and the plants which grow in the shade of forests; others, and by far the greater number, require the direct action of the sun, and grow in exposed situations. L. T. TALBOT.

#### LESSONS FROM EXPERIENCE.—No. 2.

*Moving heavy Rocks.*—Everybody knows, that is acquainted with digging heavy rocks, that a common iron bar is too short to afford lever power sufficient to break them up from their earthy beds; and the common heavy wooden lever will not bite so as to hold its grip, especially if the rock at the point is hard and smooth, and withal a little roundish. This trouble is easily prevented, and the process is as follows:—Take a good stick of timber of a length and size to your liking, and after giving it the proper shape, let your blacksmith take a wide bar of iron and weld on to one side of one end of it, and the whole width of the bar, a narrow piece of good steel; let him then turn it over on his anvil, and with a very sharp chisel, trim the end so as to leave the side on which the steel was laid, quite sharp. This sharp edge is then turned up a little, say about three-eighths of an inch, like a tooth-key. This end is then finished, all but the hardening part, which your blacksmith will please to remember after finishing the other part. The next thing is to cut off a piece of your bar some eight inches or more in length, and draw down the end not steeled quite thin. You may then have three or more holes punched, of a size that will receive some small bolts, of strength sufficient to hold this piece on one side of the end of your wooden lever. Three-eighths of an inch in diameter for these bolts will be about right. These

bolts ought to have large heads on the under side, and be settled into the wood, so that your lever shall be smooth and fair; and the same precaution must be used on the upper side where they rivet down on the iron; and for this purpose it would be well to have the holes in the iron a little the largest on the upper side, so that the bolt would rivet down even with the surface. It is now to have a temper to the biting edge, then firmly fastened to your lever, and it is ready for use. You will remember, also, that such an instrument is worth preserving as much as your plow or harrow; you will therefore use it carefully, taking care of it when not in use; and one thus fitted and taken care of, will last for years, and will hang to a rock like a tooth-key to a rebellious grinder.

There is another small contrivance I have sometimes seen used in turning over heavy rocks with cattle, which works well. Instead of hooking your chain directly into the ring or staple of the yoke, you fasten it to the axle between two cart-wheels (the cart body being first taken off) and your cattle draw by the tongue attached to these wheels. It is to be remembered that the wheels are backed nearly astride of the rock, so that the chain pulls very different from what it does as usually fastened. This plan is of service only in turning over flattish rocks. If the rock is round or square, nothing would be gained; or if flat, if it stands nearly perpendicular, the result is the same.

*Shocking Corn.*—There is a practice getting much in fashion, in this vicinity, of shocking corn, which I like; and as it is very simple, any one can prove it to his own satisfaction. It is simply this,—take a smooth pole about ten feet long, and with an inch and a half auger bore two holes near one end, and put in two legs about three feet in length, standing astride like two of the legs of a saw-horse. These legs hold up one end of the pole, while the other rests on the ground. You may then bore with the same auger, or a smaller one will do as well, some five or six holes, beginning about three feet from these legs, at a foot apart or just as you find convenient. These last holes must be bored so that when a smooth rod is pushed through one, it lies horizontally, and it forms right angles with the pole through which it passes. The horizontal cross-rod may be about three feet long; and when made and placed in one of these holes, your instrument is done. Now for its use. Instead of binding the prostrate corn, you take it up in your arms and set it firmly against your pole in one of the angles formed by the cross-rod; and as there are four angles, this process is repeated until the shock is formed. The top is then turned down as usual, and bound with a corn-stalk or anything more convenient. Your three foot rod is now drawn out, and then the ten-foot pole, and leaves the shock erect without any other ceremony.

*Salt and Tar.*—As every farmer usually has these articles, it may be well for him to know their value. My experience has taught me the following lessons; and first, salt and tar will cure wens or tumors on cattle. I once had an ox that had a tumor on his neck, a few inches back of his jaw, and apparently attached to his windpipe. Sometimes he appeared to breathe with some difficulty; and the wen had increased to the size of a goose egg.

Various expedients were resorted to without success, until I had seen a wen cured on the human head by washing it repeatedly in brine. The process of washing, however, seemed too tedious; and so I concluded to mix salt and tar, and apply to it. It soon began to diminish, and after two or three applications it had nearly disappeared, when the ox was accidentally killed. The tumor was now a very small hard bunch, not larger than the end of your finger. Since that I had a young steer disfigured by warts, mostly about his nose and face, though he had not a few all about his body. I applied salt and tar to these. The first application healed, and the second completely cured them.

Query—What might be its effect in the disease called the “wolf?” As this disease is said to proceed from an ulcerated tooth, I should try to penetrate from the outside to the seat of the disease, and then apply salt and tar externally. By so doing I should expect to save the tooth, and still effect a cure.

J. H. JENNE.

Peru, Me., April, 1846.

#### TREATMENT OF ORCHARDS.

You requested that I should give my mode of treatment to my Orchards for a few years past.

My practice is, every spring, to have the young shoots, decayed limbs, and such branches as interfere with each other, carefully removed; the rough bark and all the moss scraped off, and the main body of the tree rubbed with liquid soap. Once in five years I have manured heavily with coarse manure from the barn yard and dung heap, planted with potatoes, plowed deep and cultivated well, spading up round the trees where I could not plow. The next spring I plow again, sow with oats and seed down to clover. It is my purpose hereafter to feed off the oats and not let them ripen. A grain crop in an old orchard is of little value, and is a decided injury to the trees as well as to the fruit. I used to mow my orchard. This too I think is wrong. I now pasture with sheep and hogs. I put rings in the noses of my hogs to prevent their injuring the clover when young and tender; but when the clover becomes well set with good roots, I put the snouts of the hogs in good condition by pulling out their rings, and they root the ground completely over, especially about the roots of the trees. This I think is of great benefit. It keeps the ground loose and open. The hogs eat all the worms and unripe fruit; they destroy all insects with which they come in contact; and, should any be so lucky as to escape, the frost of winter will be sure to kill them. I ought to have said that I never allow an insect to build a nest upon a tree during the summer or spring. My fruit has improved very much since I have adopted this mode of treatment, especially my Newtown pip-pin; and this I can attribute to nothing else but to my mode of cultivation. I have an idea that guano is a good manure for fruit trees. I applied some last season to peach trees that were on the decay, and pretty much destroyed by the worm. I applied it about the first of June. I had the earth removed from the roots, and what worms could be found were destroyed. I then sprinkled a handful of guano about the roots and wet it well by sprinkling

water over it. I then covered the guano with about a peck of pulverized charcoal to each tree, which I also wet thoroughly. The trees immediately changed their color, grew astonishingly, and ripened their fruit in great perfection.

Wm. WICKHAM MILLS.

Smithtown, L. I., 23 March, 1846.

#### ANALYSES OF SWAMP MUCK.

Mr. T. N. HOLLISTER, of Metuchen, N. J., has furnished us with the following analyses made by Dr. Chilton of this city. The bed is situated on a low level surface, with only a gradual slope from the surrounding lands, the soil of which is composed of a rich sandy loam. The subsoil upon which the muck appears to have been formed consists of clay, the muck varying in depth from one to twelve feet. The upper stratum, as per sample No. 1, is from one to six feet deep. The under stratum, as per sample No. 2, was produced where No. 1 was five feet deep, at a point twelve feet below the surface. The land where it is found is covered with maple, ash, and elm, which grow very rapidly; a small portion having been cleared of wood has become firm and dry, and is at present in fine sod, and contains an early growth of grass. The valuable properties of this muck have been tested by Mr. Hollister, who, by the way of experiment, spread it broadcast upon a part of his lawn, the present verdant appearance of which strongly contrasts with the part where no muck was applied, far exceeding in beauty a fine piece of grass land well manured early this spring. The bed of muck comprises about thirty acres.

#### ANALYSIS OF NO. 1.

Vegetable matter, about thirty per cent. of which is in the state of what is called soluble Geine or Humus,	49.21
Silica,	14.00
Alumina,	17.04
Magnesia and Lime,	1.41
Oxide of Iron,	3.24
Traces of Potash, Sulph. Acid, and Phosphoric Acid,	2.10
Water and loss,	13.00
	100.00

#### ANALYSIS OF NO. 2.

Vegetable matter as in No. 1,	18.46
Silica,	47.00
Alumina,	17.80
Oxide of Iron,	3.10
Lime and Magnesia,	0.43
Traces of Sulph. Acid, Potash, and Phosphoric Acid,	0.81
Water and loss,	12.40
	100.00

DESTRUCTION OF SHEEP BY DOGS.—A correspondent writes us from Lebanon, Ohio, that upwards of \$600 worth of sheep were destroyed within a few weeks in that township alone; and the loss in the county for one year was not less than \$2,250! Notwithstanding this, and losses equally great in other parts of the State, the Legislature of Ohio, at its last session, refused to pass a

law taxing dogs. There is no greater friend to the dog than ourselves, and we are fond of having them about us; but then we would take care that they did no injury to our neighbors, and we hold that every person should be liable for damage committed by those belonging to them.

#### A REVIEW OF THE MARCH NO. OF THE AGRICULTURIST.—No. 2.

*Rules for the Application of Guano.*—Permit me to offer an amendment. Strike out all after the words, “Before using guano,” and insert, let the cultivators of American soil seriously inquire whether there is not a vast amount of native manures existing in the form of permanent minerals or earthy matters, to say nothing of that most valuable of all manures, deep plowing and green crops, besides the enormous neglect of animal manures constantly going to waste, particularly in cities, which it would be far more economical to use instead of importing a substitute. Mr. Editor, I cannot bear the name of “guano.” It calls up sad reflections whenever I see or hear it. Is it possible that Young America, the land of fertility, “the garden of the world,” has occasion to import manure? Then are we poor, indeed! as most new beginners are. Why, here in this good city of New York, there is a shipload of guano as good as ever sun shone upon on the islands of Africa or Peru, going to waste every day. If we are to import manure or bread stuffs, I am reminded by the story of the two brushmakers, that we had better “steal the brushes ready made.” . . . There is another thing. I lay it down as an axiom to my mind, which time will prove to my countrymen, that owing to our long dry summers, and want of irrigation, as a general fertilizer, guano will prove a decidedly bad speculation. Besides, is it good economy for us to import phosphate of lime? In the name of geology, I protest that we have a sufficient quantity in our own country. At all events, 20 per cent. of sand, clay, organic matter, and water, when added to the 26 to 52 per cent. of phosphate of lime, is entirely too much of a very common and superabundant article, to be so far-fetched and dear bought, for the sake of the 4 to 46 per cent. of ammoniacal salts, which your table shows the guano to contain. . . . Most persons who ever read, know that ammonia is a fertilizer; and as the best of guano contains 46 per cent. of it, consequently it is a good manure. But is it any more necessary to go to Peru after ammonia than it is after phosphate of lime? Heavens! what a humbug! What is ammonia? Is it something that exists only on the sun-burnt “Islands of Peru, where it never rains?” Really it is a long time since we have had a shower of common sense. “The schoolmaster” is undoubtedly “abroad.” What is ammonia? My book (I am “a book farmer”) tells me it is—nitrogen, 82.35, hydrogen, 17.65, =100; and it is found in the most come-at-able form for the farmer’s use, in urine and animal matter; particularly in bones, horns, hoofs, &c., that are thrown away to make room for “Guano.” What immense quantities go daily down the sewers of New York, in the form of human urine alone! . . . On account of the mere transportation (it is so portable an article),

guano may be a valuable fertilizer for a conservatory or pocket garden; but my objections are against importing the raw material, or inducing farmers to look abroad for a supply of that which we have in abundance at home. . . . Being a home-made and a home-trade man, I vote for a tariff of public opinion upon the importation of manure, or any other of the *natural* products of the country. [For an admirable series of articles on “Home-made Guano,” see our last volume, pages 61, 87, and 115.]

*Chittenden Co., Vt., Ag. Society.*—All I have to say upon this article is, that every other society in the United States should “go and do likewise.” It is the best show of common sense that I have ever noticed of any Agricultural Society.

*The Eagle Plow.*—Rather too much like an advertisement [you would not think so, my dear Reviewer, if you had to answer the hundred and one questions per week which we do, regarding these plows] to pass current among strangers Mr. Editor; but if the said strangers will accept my endorsement I will vouch for all you say of its good qualities. . . . By the by, I recollect that Solon Robinson has spoken highly of the plow, and he is safe authority. Pray, friend Solon, does it do well upon your prairie soil, where there is so much complaint about the plow clogging. . . . Your Prairie Farmer paper brags much of steel plows, but a friend of mine who lives out there, says they soon wear out. Is that so? If it is, why not harden the steel mould-board?

*Reduction of the British Tariff.*—Yes, and ours too, of course. . . . *More Guano!* I have just seen a letter from some inland, out-of-the-world town in Illinois, that says, “in consequence of the prospect of being able soon to send our wheat to England free of duty, real estate is looking up.” *Fudge!* But it is no use to say to a man that “looks up” to the British tariff, 75 miles inland from Chicago, that the total abolition of the British Corn-laws will have a tendency to reduce instead of increasing the price of his wheat. Time will tell.

*Liebig’s Patent Process of Manufacturing Manure.*—Patent medicine and patent manure! Is this an improvement on Bonner? But first, how do you pronounce that name? Is it a “Lie,” with an affix of “big,” or is it “Labah?” [The German pronunciation is Lē-big.] Some of his opponents say that his writings give the signification of the English sound of his name. I hope not, for thousands place great dependence upon them. . . . This may be, and undoubtedly is, a very good formula of preparing an artificial substitute to restore fertility to land; but it never will be extensively used while millions of acres of forest and prairie can be had after the “old homestead” is worn out, upon which crops can be raised without any manure—our country is too large and too rich in soil to improve.

*A Southern Barn.*—Well, at least here is one good feature—there is a *manger* instead of a *rack*. But, begging your pardon, this is not a *barn* as Noah Webster understood it, but a *stable*; and so it is called where it belongs. The place for *fodder*, i. e. blades of maize, is upon scaffolds over the stalls, and the corn is in the crib “over yonder,” and the door has to be opened whenever the horse

is fed, and it opens outward, and is fastened by a rail leaned up against it; I know it won't suit this latitude. . . . Mr. Miller speaks of his plan as of brick or stone. He surely means logs. I never saw one of that family of other materials. If not of logs, he need not caution that the partition walls should go down to the floor—if of brick or stone, I "reckon" the wall would start from the ground. It is a very good way to build a new country log stable, but a poor plan for a civilized barn.

**Fencing.**—This is a fruitful theme. I am a disciple of yours, Mr. Editor, upon this subject. Let us see what says this other South Carolinian. Oh, ho! the South is with us too. Here are a hundred thousand miles in the first paragraph! A quarter of a million of dollars worth of land in the single State of South Carolina, devoted to a purpose worse than useless! It is a wicked waste of the bounties of nature. But, friend Coke, you state the quantity *entirely too small*. Half an acre to a mile is only half a rod in width, whereas, bushes, baulks, briars, and fence will average nearly double that width. "In most parts of Europe," you say, and so do I, and most other parts of the world too, "they have no fences." Comfort yourself that when this country is as old as China, we shall not be such intolerably big fools about fencing as we are now. But you nor I won't live to see our country enjoying such a blessing. A greater boon will it be when fences are unknown except as cattle enclosures or yards. Such a loss would be worth more than all the gold mines of Peru—*Guano* included. I give you the right hand of fellowship, and thank you for the perusal of your common sense articles. Although our views are at present treated with scorn by those on "t'other side of the fence," yet we rank some strong names upon our side. But add to the picture of your own State the millions of acres of rich prairie soil in the West, which the poor man is deprived from enjoying, because he cannot fence his crop against his neighbor's cattle. Piracy is an honest occupation, compared with turning unruly cattle out to range over a neighbor's roadside fences. "Pass a law to keep up stock," do you say? Why, none but a nation of uncivilized barbarians would ever let them run at large. . . . I am sorry that you did not give us your own name and place, for I am going down to your State next winter, and I should be proud to take so sensible a writer by the hand. [If Reviewer does go South we promise him a letter to Coke, and will ensure him a hearty reception at his hospitable mansion.]

**Agricultural Chemistry and Geology.**—From the reading of this article it actually appears as though it was intended for the use of schools. Now this may do very well to *amuse* some of our city youth, who will sometimes talk of "a place in the country;" but what country boy that has sense enough to comprehend anything about the science of those few questions and answers, has any idea of spending his life as a cultivator of the soil? No sir; he is looking forward to "a place in some store," or something "more genteel" than that of being the son of an American agriculturist.

**Sheep on the Prairies.**—What again? Them chaps out West are determined to "wool us."

This is an old subject with an old writer, but he ever has something new. In common with many of his friends, I regret that "miserable health" has prevented him from keeping his ready pen in exercise for the gratification of the readers of "our paper." . . . And so it is not all gold that glitters upon the prairies? Sheep will starve upon frost-bitten dead grass in the fall, then? Glad to hear the truth spoken plainly. No doubt the Western prairies afford a fine country for raising sheep, but there are some difficulties there to encounter. . . . This article of friend Solon's no doubt contains some sound, practical advice to those who design to commence the business of wool-growing upon the Western prairies. But some of us "up our way," would like a word of explanation about Mr Cockrill's fine sheep. Does the wool deteriorate in quality or quantity in that latitude? Will Mr. R. tell us something more about this Southwestern flock? . . . Too much truth about them "ignorant, stupid, unfeeling, and indolent flock-masters," though it is expressed in rather strong language. No danger though of a "*libel suit*," as those who treat their flocks thus never read. Such suits are more commonly *coopered* up by some very envious *cultivators*, of a malicious, instead of ignorant disposition, towards a rival in business. . . . But is it a fact that people live upon the productive soil that you describe, in such habitations? Then truly they are indolent!

**The Yellows in Peach Trees.**—Here is "new doctrine" from an old book. But the translator, if I understand the signature, is a gentlemen who may be relied upon. And if the article from the New Duhamel, which is also reliable authority, is correct in its theory, as well as the opinion of Persicus, that this disease is not "*contagious*," then must we change our practice in the cultivation of this best of all fruits. . . . Let us hear more upon this very interesting subject. What is the experience of those who have cultivated this fruit upon the rich soil of the West and South? It strikes me if Dr. Philips, of Mississippi, Dr. Fanning, of Tennessee, and Mr. Robinson, of Indiana, would tell their experience in raising peaches, that it might be good evidence from three points, and different soils and climate, that might be useful when "doctors disagree." . . . I wish, friend Persicus, that one of your experience and information at home and abroad, would write over his own signature. *I have cause for concealment, you have none.*

**Southern Crops and Culture.**—It appears to me that I have seen Dr. Philips described as a small man, but he certainly has a large head, and handles a free pen. I have been told by one who has been "thar," that he also has a *large heart*. I certainly should like to visit him and many others of the Southern planters, and test that fact by testing their hospitality. . . . "Is that so," as you say in your second sentence, that what we conceive, here at the North, your Mississippi soil to be, inexhaustibly rich, will wear out in twenty years? Please explain this, Doctor. What is the soil? You intimate that cotton is not an exhausting crop. What, then, wears it out? For you say, "the subsoil possesses all the requisites of a good soil." That you need no mineral manures, such as lime, marl,

&c., and yet your land wears out in twenty years. What sort of farmers (I beg your pardon, I believe you don't call yourselves "farmers," but "planters") are ye? Is the word "rotation" only known as applicable to office, and not to crops? From your description, or rather the inference drawn from your partial description, I should suppose that with such a subsoil, and such an ability to turn under two green crops, peas and oats, for one taken off, that such a soil in such a climate, with such management, would never wear out. . . . But what is the "cow pea?" I find such an article in the American Farmer's Encyclopædia, but the description is very meagre. If you please, Doctor, give us a full description—color—size—yield—both of seed and vine—when sown—when harvested—and what good for, both pea and haulm. . . . And so you have done feeding your hogs on cotton seed! Well, it is time, if I am rightly informed of the manner of feeding them, which I am told is often done in the same state that they grew, with quantities of the lint adhering, and as I believe the seed itself has an outside hull around the oily kernel about as nutritious and digestible as dry hickory bark, it is no wonder that your hogs went to the buzzards instead of the smoke-house. . . . But let me inquire if you, and nearly every other large planter, do not own a *grist-mill*; and whether if you should grind your cotton seed with oats or peas, thus mixing fat, bone, and muscle together, it would not make good hog feed. Pray tell us something of the manner of using cotton seed for manure. How much *seed* grows upon an acre? We cannot understand what you mean by saying that "enough rye, oats, and peas, should be saved to plant the succeeding crop." This may be all plain English in your latitude, but you must recollect, Doctor, that our paper is a national one, and I guess some of us don't understand your Southern ways. If you only save the seed, pray, what becomes of the crop? And what kind of grass is that which follows oats and rye? I understand sweet potatoes, and should like to be one of your "poor, starved niggers," long enough to eat my "half-acre." . . . If all the *straw* of wheat were returned to the land, how much loss of potash would there be there? . . . Because you "lose too much time fencing," and you might have said because your rail fence in your climate is a very unreal estate, you will take to hedging. Well, that is better than nothing. But I wish you would read the article in the number of this paper now under review, upon fencing, and say if there is not more common sense in that writer's views than in a system which takes "too much time," all over the Union. Write again, Doctor. Don't fear that we shall tire. Descriptions of your country, and method of cultivating your crops, given with much more minuteness, will be interesting up here.

*A Drill Cultivator and Marker.*—What! another! Is it possible that the world is not yet full! Now these may be very good implements for cultivating strawberries, and if I knew the inventor had *not* patented them, I would recommend him as a generous and liberal-minded man for exhibiting and publishing them for the benefit of his

horticultural brethren. [He has not patented them: says any one is welcome to their use.] But if I knew that he had taken a patent, I would denounce the whole concern as a very picayune way of advertising his wares for sale. The fact is, I am decidedly opposed to that spirit of narrow-mindedness among agriculturists, that prompts them to patent every little simple contrivance that they may chance to think of. One of this class of "small potatoes," a few years ago, patented an apple picker, that any common farmer can make for an expense of sixpence. Very useful, true, but too small for a patent.

REVIEWER.

We have so many communications crowded upon us, we regret to say that we cannot give the whole of our correspondent's agreeable article, but are compelled abruptly to bring it to a close.

#### ROTATION OF CROPS.

THE primary points in relation to the proper rotation of crops with the farmer, before he can with prudence attempt the cultivation of land to any extent with satisfactory results, should be a full knowledge of the climate and soil he is to occupy. By the term climate, is intended the nature of the weather in his particular district; and it is with regret that full and proper attention is rarely given by the farmer, to the nature of the climate under which he is to operate; as it is a well established fact, that the system best adapted to maritime situations is not so well adapted to those that are more inland; as also where a large portion of the country is covered with timber, there is a greater variation of the thermometer, between the extremes of heat and cold, than where the country is cleared of wood. In a woody country, the sun being partially excluded, the evaporation from the earth is not sufficient to dry the ground; consequently parts of the day in summer are hotter, and the winters are colder than in a country cleared and under cultivation, where a more equal temperature is obtained. By the term soil I would name clay, loam, peat and sand, which are the most popular with us, and neither so ungrateful as not to repay the husbandman, if he will only give proper attention to its culture. In fact, a favorable climate and soil are justly ranked as the "first riches of a country." Another important feature to be considered in relation to a system of rotation of crops, is a proximity to, or distance from, a market. Under the former circumstance, the various kinds of root crops, vegetables, hay, and all the more weighty articles, can be cultivated to advantage, while those more remote from a market have to confine themselves to grain, and the more valuable products.

Too much attention cannot be paid by the cultivator to the nature and qualities of the soil, by becoming familiar with its natural properties, improving its good qualities, and removing its defects, the importance of which is so self-evident to every intelligent farmer, that no general system of cultivation can be given unless all the circumstances as to the nature of the climate and soil be known; and the force of habit is so strong, that a farmer who has been a long time accustomed to a certain variety of climate and soil, by removing to another

under different circumstances, will rarely meet with the same satisfactory results. Hence it cannot be presumed to establish one system as best adapted to all situations.

The atmosphere of Long Island from its maritime situation is strongly impregnated with salt, while in the northern and western portions of the State which are more inland, nitrogen prevails in the air, and different applications are required as fertilizers to the soil. For instance, the application of plaster (which has but little affinity with the marine atmosphere) to land on Long Island is attended with no good results, while in the interior, from its affinity with nitrogen, it attracts from the atmosphere, or absorbs and retains it until required by the plant, and consequently is highly beneficial. (a)

Owing to the early settlement of the island and a uniform course of cultivation, a large portion of the natural soil has long since been exhausted, and is now only made productive by the most liberal and large deposits. Consequently a proper rotation of crops requires a far more diligent study with the farmer than where the land has had less cultivation, as on the rich bottom lands of Ohio and the West, where wheat is reputed to have been sown for twenty successive years without any apparent exhaustion of the soil.

On Long Island, after a field of grass has been mowed for three years and pastured one or two years (according to the strength of the soil), it requires cultivation and manure. It is plowed in April, and from twenty to thirty cart loads of stable manure per acre are spread upon it, which costs seventy-five cents a load, or about the same quantity of the sweepings of the streets of the city of New York, which costs about fifty cents per load. The former is preferable after it is well harrowed in. Corn is planted upon the field early in May, which requires three courses of plowing and hoeing during the summer, and produces from fifty to seventy-five bushels of shelled corn per acre. The following year, during the month of March, the corn stumps are harrowed out, the field plowed, and two bushels of oats per acre are sown early in April. No manure being added for this crop—a portion of the field is generally reserved for potatoes, which are planted in drills, in which a good coating of manure is placed before the potatoes are dropped, and then covered with the plow. In about ten days, or a short time before the sprouts appear on the surface, a few green twigs of hickory or other wood, are twisted among the teeth of a harrow with which the ground is brushed lengthwise of the drills; the result of which is, the early weeds are destroyed and the ground partially leveled. They subsequently require two courses of plowing and hoeing before they appear in blossom, and the produce of potatoes is about two hundred bushels per acre. The product of oats is about fifty bushels per acre. As soon as practicable after the oats are harvested the field is again plowed, when the oats that have been left in the field vegetate very early and afford pasture until the early part of September. The field is again plowed, on which about thirty loads of stable manure per acre (costing as before stated seventy-five cents per load), are spread and well harrowed under, and two bushels of wheat and four quarts of Timothy

seed per acre are sown, after which the ground is well harrowed and rolled. In the March following ten pounds of clover seed per acre are sown upon the field, which completes our system of rotation of crops. The field being now properly seeded for grass and prepared after the wheat is harvested for mowing the succeeding three years. The produce of wheat is about twenty-five bushels per acre.

For a few years past some of our farmers have adopted the system of sowing ten pounds of clover seed per acre, with, and at the same time of, sowing their oats, the growth of which affords good pasture after the oats are harvested; and the following year until after mowing time, when the clover is permitted to grow to be plowed under in September, when the usual quantity of manure is spread upon the field, and the wheat and grass seed sown. This plan has been attended with satisfactory results to those who have attempted it, the soil being in much better order for the wheat crop and laying down to grass, than when cultivated under the old system. It has another advantage of authorizing the farmer in mowing as many acres of his pasture ground as he pastures of the clover.

Below I give a statement or table of a low average of our different products per acre, the largest product ascertained, and the general average price of each.

Variety of products.	Average crops bushels per acre.	Largest crops bushels per acre.	Average value.
Wheat,	20	40	1.00
Rye,	15	35	62½
Oats,	30	80	35
Corn,	40	122	60
Barley,	20	35	70
Buckwheat,	20	40	50
Timothy seed,	4	8	4.00
Flax, do.	10	15	1.25
Clover do.	2	4	10
Potatoes,	100	400	37½
Ruta Baga,	400	700	25
Mang'l Wurtz'l,	700	1,100	25
Carrots,	600	1,150	25
Hay,	1 ton.	3½ tons.	10.00
Flax,	300 lbs.		10

The cultivation of rye and barley is limited, the former being occasionally sown on light or sandy soils in the place of wheat—the latter on rich or strong land instead of oats. Flax has also a small cultivation, and is sown on a portion of the oat field. Ruta baga, mangel wurtzels, and carrots are cultivated in the same field with corn.

Fixed rules can be laid down, practised, and profitably adopted for a rotation of crops, for certain varieties of climate and soil, or where there is a similarity, and where, too, the same manures can be obtained, which rules have been derived from previous experience. It would be a useless waste of time and labor to apply green manures to a soil a large portion of which is composed of vegetable matter—lime or marl, where the calcareous substances are in sufficient quantities—charcoal, where other substances capable of absorbing all the ammonia are present, and coming in contact with them, or any fertilizing or absorbing substances where there is a sufficient quantity of both for the luxuriant growth of the crops desired to be grown ;—and

the same will apply with equal truth in attempting to sow a particular crop, where the substances of which it is to be formed are not present, and cannot be obtained at a rate to warrant the expense.

Oyster Bay, L. I., May 15th, 1846. S. Y.

(a) May not this want of effect in gypsum be owing to the absence of vegetable matter in the soil of Long Island? At other points along our sea-coast, plaster has been employed with beneficial results.

#### CULTIVATION OF CORN.

UNDER the head of "Indian Corn for Seeding or Fodder," page 107, current Vol., you use the following language:

"If the land be rich and properly prepared for corn, it will be sure to come up and grow, however dry it may be, provided the seed be prepared by steeping it in guano, or saltpetre, water, or some other cheap solution. When corn is tolerably advanced in its growth, it completely shades the ground, and the drouth will have but little effect upon it. A larger crop may usually be grown in drills than when sown broadcast; and if these drills be two, or two and a half feet apart, we believe it will be found better than nearer, especially in a very dry season, as the cultivator can be often run between the rows, stirring the ground effectually, and neutralizing, in a measure, the effects of dry weather."

I copy your remarks, that the sowing of corn for provender may be again placed before your readers, assuring them that, in Mississippi, it will be as great an assistant as you speak of with you. And for the purpose of giving in your language, what I conceive to be the entire principle of planting and cultivating corn, which is, "properly" prepare land, plant it close to shade the land early, and cultivate with a cultivator. I cultivate only ordinary land in part; some of it is really poor, and my entire crop, whether little or much, it matters not, has (and does) averaged 30 bushels per acre. As to the number of acres I cultivate, or the quantity made, it is of no sort of business to know; sufficient is it that I have had corn, and fodder too, to spare for several years. But as there are many who think "a patch" can be better worked than a field, I will state, for their gratification, that I had 67 acres in one patch last year, and it was not all the corn either by many acres. A portion of this field was pronounced by a planter of 250 bales cotton, as yielding at the rate 50 bushels per acre. I use no manure to corn, but I plow deep, turn under corn or cotton stalks, and pea-vines; plant 4 feet by about 18 to 20 inches, single stalks in drills. I cultivate early, hoe when corn has 3 or 4 blades, or as early thereafter as the season will admit of, seldom using the hoe after. I thin out by hand, do [not] chop it up with the hoe. I use cultivator or double shovel plows, or the shovel plow, and I lay by, when or before the corn is in bunch. [tassel?]

I believe the South will bear close planting, and why not? Are your summers not as hot as ours? True, ours are much longer, but what of it? Is

our corn not made in the same length of time? Corn, if planted in latitude  $32^{\circ} 30'$ , in March, or 1st of April, will be safe from drouth by about the 1st of July—say 3 months—whereas corn planted near Lexington, at usual time, say about the 1st of May, is sometimes caught by frost in September, and ruined. No, sir; the difficulty is shallow plowing, and as deep cultivation, with the stand so scattering that the sun bakes the land.

Since writing thus far, I have an excellent address from the pen of Mr. C. M. Hammond, delivered before the Burke Co. Central Ag. Society, in Georgia, my friend, Gov. Hammond, of South Carolina, being kind enough to remember me. I also have "Effects of Drouth on Indian Corn, &c." "To the Planters and Farmers of South Carolina," by W. B. Seabrook. Both of these you will see, and I would ask a copy of at least the 2d paragraph on page 13, of Mr. Hammond's pamphlet.

In addition to my remarks, I would say that shallow covering is of much import. I have tried the various depths, from half an inch to six inches, by putting the seed in a hole at the various depths increasing half an inch, and I found the deep planted corn invariably rotted.

In addition to deep tilth, shallow culture, close planting, laying by early, and shallow covering, allow me to add, be certain to plant peas in the middle when you plow the last time, by scattering along the row, covering with cultivator. I sow about one bushel to three acres, my object being not only to grow peas, but to shade the land, and to grow vegetable matter to plow in. I may be in error, but I think shading the land acts in a two-fold capacity—preventing the earth getting so dry, and as an enricher. I have heard it said so frequently that I have become a believer without evidence, that, "covering the earth with lumber or bricks it will act as a fertilizer." If so, and that saltpetre is produced in caves, why should not the close shade of pea-vines act in a similar manner, if to a less extent? This thing I know, that pea-vines have benefitted me very greatly, whether by the covering, or as manure, or as both, it matters not I have heard that some "fear the pea-vine would extract nourishment from corn, and might injure land;" but I think they, being of the same character as the clovers, take very largely of their nourishment from the air, and we thus return more to the land than we take, even after gathering the pea. I do not think as many peas are grown per acre, but as I make as many as I can feed, I deem the pea itself only as a secondary, and if it was restricted to the gathering for seed only I should continue.

To make these remarks more striking, I will state that the crop in this place under former overseers, when they were sometimes manured with cotton seed, never averaged over 20 bushels per acre, with always a scarcity, and sometimes to buy. Since two-horse plows, and this mode of cultivation, have been used here, I have gradually improved the corn crop to so great an extent, that 72 acres would have averaged last year over 40 bushels if a portion had not been grossly neglected. I am determined to make my corn crops average 50

bushels without hauling manure, and think the day is not far off.

The attention of Southern planters being drawn to corn culture, is my excuse for troubling you at such length.

M. W. PHILIPS.

*Edwards' Depôt, Miss., April, 1846.*

**BUTTER.**—A lady, writing us from her plantation in Louisiana, says: As for the sugar crop, that is the gentleman's vocation; mine is the garden, poultry, and dairy. Butter as yet we have only enough for family use. After repeatedly visiting the market of New Orleans, I am convinced that they know not what butter really is there. It is a miserable, white, washy stuff, sold there under this name, at an exorbitant price. I know our butter made on the plantation would cause theirs to blush. I hope to send a small sample to our State show in January. The mosquitoes seem to be our greatest inconvenience. They annoy the young chickens greatly, and prevent our hens from sitting in warm weather.

#### ENTRANCE GATE TO A VILLA.



FIG. 50.

THE entrance to a garden or villa may be produced in a few years, agreeably to the above representation, by planting a dense thicket of trees and shrubs, clipping the latter so as to form a rustic arch of almost any size or shape. The shrubs to be employed for this purpose may consist of the purging buckthorn, arbor vitæ, arborescent box, holly, and Cherokee rose (in the southern states), grape vine, or ivy.

**THE BEST SYSTEM OF FARMING.**—When Cato was asked, What was the best system of farming? he thrice answered, “*bene pascere*,” which is to be translated “to graze well,” or to procure food for cattle, having had in view the connection between the feeding of cattle and the production of manure.

#### POLLED CATTLE.

I NOTICED in your April No., an inquiry about polled cattle. They are to be found in this vicinity. I have a cow six years old, from an imported cow, brought from London by one of our packet masters. The mother was a very fine cow, and cost in London a very high price. The one I have is of medium size, very gentle, and hardy and well proportioned. Color red, with some little white.

Henry Perkins, Esq., formerly of Salem, gave his attention exclusively to *polled* cattle, raising no others. A few years ago he gave up the business of farming, and disposed of his cattle, which have become scattered through the town. Capt. Chadwick, of this place, has a very fine cow of that breed, purchased of Mr. Perkins. She is unquestionably the best cow in this vicinity, with the exception of the imported Ayrshire of R. S. Griswold, Esq., which you have seen, and which took the first premium at the cattle show of the American Institute in October, 1844. Some think her superior to the imported cow of Mr. Griswold. At any rate she is a very valuable animal; large, well made, and gives milk abundantly, and of fine quality. Color, reddish brown. She had a heifer calf this spring, by Mr. Griswold's imported Ayrshire bull.

The other cattle of Mr. Perkins have mostly gone into the possession of farmers who pay little attention to their stock, and of course are not in a condition to show their true characters. The breed has been very much neglected here, as our farmers give more of their attention to working oxen than to cows.

The polled cattle here are not so much esteemed for oxen as those with horns.

HENRY M. WAITE.

*Lime, Ct., April 18, 1846.*

Another Correspondent thus writes us upon this subject:—

Your correspondent, G. W. J., of Milton, N. C., writes to you about polled cattle, and you ask your readers for information as to where the best are to be procured.

In Great Britain there are now three breeds of polled cattle, which were no doubt originally derived from the wild cattle, of which I believe but one herd now remains pure and in a wild state in Yorkshire, though some 60 or 70 years since there were several parks stocked with them, both in the north of England and south of Scotland. Of the improved polled cattle, the Galloway, from the southwest of Scotland, rank first. These are of very fine symmetry, small in the bone, and of very great capability of quickly taking on fat. They are now all black, though formerly this was not the case. Next to these come the Angus-shire, from the northeast of Scotland, very similar to the Galloway, rather larger, but hardly so fine in their points. These are both more valued for making beefeves than for dairy purposes. When grass-fattened, at three years old, they leave Scotland and go to within a moderate distance of London, and in the yards in Norfolk and the neighboring counties

they are brought to the highest state of perfection for the London market. Whether in the half fat state in which they are driven south, or when fit for the London butcher, they command a price for their weight, above that given for any other cattle. Their being polled renders them far less liable to injury in the yards than those with horns; and they are considered unequalled in their capability of quickly taking on fat, while their beef is that which brings the highest price in London.

Your correspondent wants polled dairy cows. The English breed would better suit him. They are known as Suffolk duns. It is generally believed they are from one of the Scotch breeds, which having long been carried to that part of England for fattening, some of the Suffolk breeders had either adopted them or crossed their own breed with them, thus obtaining a polled stock, which are somewhat larger, and possess qualities as dairy stock, superior to the Scotch. They are chiefly roans, or light colors, though known under the general term of *duns*—and this at one time was a very common color in the Scotch breed, though by selection and care they are now almost entirely black. The wild cattle from which it is thought these three breeds have sprung, are white, with black ears and muzzles.

MERINO sheep were first known in Africa. They were introduced into Spain and Italy in the early part of the first century; but whether they produced as fine fleeces then as now, and were otherwise as valuable, is a matter of great doubt. The first improver of them was Don Pedro II., king of Arragon, early in the 13th century; and after him, Cardinal Ximenes, prime minister of Spain. The French government also deserves great credit for its improvements of this valuable race of sheep, the royal flock at Rambouillet having steadily increased in its average weight of fleece since they were introduced there from Spain, and the quality of the fleece at the same time has been much improved, especially in its general evenness. The introduction of these sheep into America, and their breeding since, is so familiar to our readers, that we need not dwell upon the subject. For a valuable series of articles on the Merino in Spain, see our last volume.

#### SHEARING SHEEP.

Of those who can shear a large number in a day, and perform it skilfully, there are very few; but nothing precise can be stated, as it depends entirely on the breed. If they are Saxons or Merinos, or grades of these breeds, it will be very safe to say, from twenty-five to forty, taking the average of a flock; the grown sheep fewer than of yearlings.

One of the finest oxen I ever saw in Great Britain, was a cross from a Galloway bull and West Highland cow, the latter a horned breed. He was polled, and exhibited at the great cattle show in London, when the crowned heads were there in 1815, and took the second prize, the first being given to a Devon ox, of enormous size, but wanting in fine points. I do not think any Suffolk cattle have ever been imported into this country. For dairy purposes I have no doubt they would be found superior to the Durham, now so much in fashion; and if this notice should lead some of your enlightened readers who may be in the habit of importing cattle, to make themselves acquainted with the valuable qualities of the Suffolk duns, I think they would be encouraged to make a trial of them, and that great success would attend their introduction here.

I have never met with superior polled cattle in this country, and as it was in regard to such that your correspondent inquired, I hope some of your numerous readers may be able to give information on this point. What I have stated may either in whole or in part enable you to fill some spare corner of your next number, as notes from

April 13, 1846

AN OLD GRAZIER.

#### A MERINO BUCK.



MERINO BUCK.—FIG. 51.

In general terms, it may be said that he is a good workman who will accomplish about the largest number, cuts the wool with one clip of his shears, and not in twain, as one shearing too fast is apt to do, shears even and close without cutting the skin, and holds his sheep in those positions both easy to it and himself.

The following instructions may be followed, intended for the novice:—

Supposing that the floor of the shearing-house has previously been thoroughly cleaned, the pound containing the flock littered with straw—the shearer proceeds to bring his sheep upon the floor.

This he must avoid doing after a common method, which resembles, rather than anything else, the rough-and-tumble efforts of a dog dragging a wood-chuck from his burrow—but after catching it, to throw his right arm around the body, grasping the brisket with his hand, then lift it, and with his left hand remove dirt or straw, if any adhere to the feet. If the sheep is filthy about the tail, or perchance any burs are attached to the wool, at the threshold of the door, let all be cut off by a suitable pair of shears at hand for such purposes only. Then he may place the sheep on that part of the floor assigned to him, resting on its rump, and himself in a posture, with one knee on a cushion, and the back of the animal resting against his left thigh. He grasps the shears about half-way from the point to the bow, resting his thumb along the blade, which affords him better command of the points. He may then commence cutting the wool at the brisket, and, proceeding downwards, all upon the sides of the belly to the extremity of the ribs, the external sides of both thighs to the edges of the flanks; then back to the brisket, and thence upwards, shearing the wool from the breast, front, and both sides of the neck—but not yet the back of it—and also the poll or fore part, and top of the head. Now the “jacket is opened” of the sheep, and its position, and that of the shearer, is changed, by being turned flat upon its side, one knee of the shearer resting on the cushion, and his other gently pressing the fore-quarter of the animal to prevent any struggling. He then resumes cutting upon the flank and rump, and thence onwards to the head. Thus one side is completed. The sheep is then turned on to the other side, in doing which great care is requisite to prevent the fleece from being torn, and the shearer acts as upon the other, which finishes. He must then take his sheep near to the door through which it is to pass out, and neatly trim the legs, and leave not a solitary lock anywhere as a harbor for ticks. It is absolutely necessary for him to remove from his stand to trim, otherwise the useless stuff from the legs becomes intermingled with the fleece wool.

In the use of the shears, let the blades be laid as flat to the skin as possible, not lower the points too much, nor cut more than from one to two inches at a clip, frequently not so much, depending on the part, and compactness of the wool.

The above instructions being designed for a beginner, we will suppose that this is his first and only attempt. Let his employer, when he is about it, and it will be a good while, have an eye on all his movements, kindly and carefully directing them. After the pupil is through his first effort, you will see him smoothing out the crinkles and aches from his back and hips—for thus the poor fellow will feel—and if the weather is warm—and of course it should be—wiping the dripping sweat from his brow. But be easy; let him blow awhile before he catches another sheep, for if you hurry him, long before night you will hear murmured from his lips, that “shearing is a back-breaking business—it’s not what it is cracked up to be,” &c., &c., indicating that he is already disgusted with it, and if so, adieu to his ever arriving at skillfulness. But if he has time afforded to straighten himself, and is petted with kind compliments

“upon his unexpected well-doing—that he improves with each successive sheep—and that he will be sure to make a first-rate shearer,” you will bring him under the yoke without his knowing its hardships. He will probably shear eight or ten the first day, and possibly a few more the next; at all events, guard him all the while, and see that he hurries not, or slight his work in any respect.

In this way, and none other, can we properly educate shearers to do their work with tact, and increased profit to the flock-master. This is but a transcript of the writer’s course; and to show its good results, he has now in mind an instance, among several, where he instructed a raw one, and the following season his pupil sheared forty per day, and performed his task admirably.—*American Shepherd.*

#### COTTON PLOWS.

I have not ascertained what will be the amount of cotton planted compared with the crop of 1845, but I presume not more, if as much. However, I do not think there will ever be made more cotton in this country than was made in the year 1844. There is more of a feeling now manifested for plentiful crops of provisions than heretofore; in fact, necessity will compel us to pursue that course, as our woodland ranges are fast failing, which will compel us to winter stock; heretofore we have been rid of this duty. This, in the end, will be a blessing instead of a misfortune; for where a people are dependent on their own resources, they are apt to provide more plentifully, than where woodland pastures have been their hopes.

To my knowledge, several sub-soil plows, as well as the northern turn-cast plows, have been introduced among us the present season. Those who have tried the former, are well satisfied of its utility and practicability. The only objection to it, is, that it is too heavy—requiring hard labor for two mules to draw it;—in fact two mules cannot work for any length of time at it. Could we procure one of a size or two less, that would work easy for two mules, I am of opinion they would become more in use. I am using six of the northern turn-cast plow, which answer an excellent purpose. The work they do is completely satisfactory. The objections to them heretofore at the south, particularly in new countries, were, they could not stand the roots in our new lands. This in a great measure depends upon two things. First, their manufacture; second, the care used in working with them. If they are properly made of good materials and faithfully put together, they can stand our new lands; for those I am now using, have been constantly at work since February, and have been plowed through lands of various quality and conditions; first and second year’s clearings, and stiff, rough ground, very rooty, with numerous stumps in it. As yet, they are as sound and in as good order as the day I commenced with them—not even a point has given way. I am so much pleased with them in all respects, that I shall never be without them again so long as they can be procured on reasonable terms. In moulding or working out corn, they leave the ground in such beautiful order, that the work to be done with the hoe is much lightened and facilitated; it is the same with cotton after be-

ing thinned out to a stand. The draft is light on the animal, which is a very important consideration.

H.

*Barbour County, Alabama.*

#### SUPERIOR MODE OF CURING HAMS.

AGREEABLY to your request I herewith send you the process of curing the hams I sent you in March, which recently called forth the admiration of the American Agricultural Association, and the Farmer's Club, at New York.

I made a pickle of two quarts of salt, to which I added one ounce of summer savory, one ditto sweet marjoram, one ditto allspice, half ditto saltpetre, and one pound brown sugar; boiled the whole together, and applied the mixture boiling hot, to one hundred pounds of hams, and kept them in the pickle three or four weeks.

My process of smoking was not the most expensive, but may not be the less available on that account. I smoked the hams in a seed cask, with one head in, with a small hole for the smoke to pass out, hung my hams to the head, and used about a peck of mahogany sawdust for fuel, which I happened to have on hand for packing goods. I smoked them but one week.

W.M. STICKNEY.

*Boston, May 6th, 1846.*

#### COLIC IN MULES.

I HAVE been a constant reader of your paper from its commencement, but have not yet seen an article on a subject of great importance to us Southerners, namely, the cause of so many of our mules and horses dying with the colic.

We are the most unfortunate people in the world as regards our stock. I lose three, and sometimes five mules every year by the colic; every day there is a mule brought to me from the field sick with the colic. Now I cannot see the reason of this, unless it is our mode of treating them. Our treatment is this. We plow them hard; give them as much water as they can drink when they are taken out to be fed; feed them in a lot in which there is a trough with plenty of corn in it: no stable for our mules whatever.

You would confer a favor if you or some of your correspondents would enlighten us on the subject, for it is a matter of importance that we should know how to prevent this disease.

GASTON.

*Tallahassee, Florida.*

No treatment of mules or horses, that we are acquainted with, would be more sure to induce colic than such as is spoken of above by our correspondent; and if he wishes a preventive, he must change his system, for no medicine would be efficacious under it. To water a mule or horse when hot frequently produces colic; and to feed him hard, dry corn, will do the same. Oats are much better feed in every respect, and may be given dry without danger in any quantity, though it is better to grind, or at least soak them in water a few hours before feeding. Oats make tougher muscle and harder flesh to work on than corn. If corn is used, it ought to be ground with the cob, and mixed up with water, slightly salted, a day or so before being used. If it ferments previous to feeding, or if it can be boiled like mush or hasty

pudding, so much the better, as it then goes much further, and is healthier for the animal. When mules are taken out to be fed, let them get a little cool before being allowed to drink; then give them a small quantity of water, say one or two quarts, and as they cool give them more, till they finally drink as much as they desire. If the water be very cold, a handful of hot wood-ashes should be thrown into the bucket before drinking—this is generally sure to prevent any ill effects. A gill of ashes should be given to each mule or horse once a week in their feed. Ashes keep the system open, and kill worms and bots in the intestines. It would be better to stable the mules, especially when feeding during very hot weather, in copious dewy nights, and in cold rainy weather. Their principal meal should be at night. During the long, hard working days of the season, they ought to have two hours rest at noon, and one to one and a half hour's rest in the shorter ones.

#### DOMESTIC FISH-PONDS.—No. 1.

ON the continent of Europe, particularly in France, Germany, Sweden, and the Netherlands, the rearing of fish affords a regular source of profit to landed proprietors, and the establishment of artificial ponds, and the management of this species of game, are well understood. In most of the cities and larger towns, the stalls in the markets are furnished with two or more tubs of water, crowded with living fresh-water fish, in excellent condition, but painfully panting and struggling in their confinement, which are obtained from private fishponds, where they are regularly bred for the market, in a similar manner as our farmers' wives breed geese, ducks, and other fowls.

In most parts of the United States there are either natural ponds, or lakes, or waste places, capable of being converted into artificial ponds, which, if properly stocked and attended to, would greatly add to the luxuries and prosperity of the country, and would furnish the whole population, both in the country and in cities, with an increased supply, at all times, of wholesome and nutritious food. Few acts of our government, or of private individuals, would be more praiseworthy than to introduce into our waters, from Europe, a quantity of tench and carp, for the purpose of breeding, or to bring the celebrated white fish, muscalonge, Mackinaw trout, and other tribes of our great lakes, to the ponds or lakes nearer the sea-board, for the same object. On this point I shall speak more in detail hereafter.

A few years ago Dr. Gottlieb Boccius published a pamphlet on the management of fresh-water fish in Germany, with a view of making them a source of profit to landed proprietors. From this work, and several other sources, I have derived the information which follows in this, and will be continued in the succeeding numbers, with a hope that an attempt will be made to introduce this branch of rural economy into this country.

*Formation of the Ponds.*—As the first formation of fish-ponds is expensive if the proprietor has to excavate the ground, it is desirable to choose a natural hollow, to form an embankment where necessary, and to provide a feeder leading into it. If these ponds are not made entirely for profit, it will

be well not to hide them from the view of the house, as sheets of water seen alternately when approaching a residence have a very elegant appearance. Their extent depends of course upon the quantity of fish proposed to be raised. If there is only one pond, it should not be of less extent than five or six acres; four times this area may be desirable, especially in marshy or wet soils, which often cannot be more advantageously employed; but it is better to construct a series of ponds, the first of three acres, the next four acres, and the largest five acres. For ornamental fish-ponds, as many as five should be formed, situated between two rising grounds and separated by embankments; three, however, is the usual number; the first of which should be slightly elevated, and so situated that it may receive the drainings of a village; or at any rate it should be near a farm, as all the refuse washings from such places supply food. The ponds should be separated by a distance of at least one hundred yards; more, if possible, as each can then have the refuse washings of the neighborhood. The ponds should be connected by water courses, protected by flood-gates of sufficient depth and descent to allow the whole of the water to pass off readily. If the supply of water is even and well regulated, the depth of each pond at the centre may vary from three to five feet; if the supply is not regular, the depth may be greater by about a foot. The sudden introduction of large quantities of fresh water is to be avoided, because its temperature is generally below that of the pond, and it also stirs up the mud. The sides of the pond should shelfe gradually for about six yards; this will encourage the growth of grass, in which a variety of insects, &c., will harbor and supply food to the fish. Another advantage of shelving sides is that if the shallows are protected by stakes, the pond is not so easily poached. A third advantage is the protection it offers to the brood, as will be noticed hereafter. About the sluice or flood-gate the water must be deeper for the reception of the fish when the pond is emptied for cleaning, &c. A sheet of water may sometimes be divided into two by a middle embankment to be raised about two feet below the general surface of the water when the pond is full, so as to allow a boat to pass over it: thus one-half can be emptied at a time, and the fish transferred from one to the other at the time of cleaning.

Where there is only one pond it may be desirable to have several kinds of fish in it. Artificial bottoms must then be made, as different species of fish prefer different bottoms. Trout must have a gravelly bottom, and will not thrive without one; carp and tench are not so dependent on the nature of the soil, and are fond of weeds. Clay soils are not good, as they furnish no nutriment for the larva of insects, worms, &c., and consequently no food for the fish. Izaak Walton says: "It is observed that the best ponds to breed carps are those that be stony or sandy, and are warm and free from wind, and that are not deep, but have willow trees and grass on their sides, over which the water does sometimes flow;" and again, "such pools as be large and have most gravel, and shallows where fish may sport themselves, do afford fish of the

finest taste; and note that in all pools it is best for fish to have some retiring place; as namely, hollow banks or shelves or roots of trees, to keep them from danger, and when they think fit, from the extreme heat of summer as also from the extremity of cold in winter. And note that if many trees be growing about your pond, the leaves thereof falling into the water, make it nauseous to the fish, and the fish to be so to the eater of it."

New York, May 12th, 1846. D'JAY BROWNE.

#### RAMBOUILLET MERINOS.

UNDER this head, the article which we copy below, recently appeared in the Vermont Chronicle. Mr. D. C. Collins, the importer of these sheep, happening to be in town when we received the paper, we immediately called his attention to it. We subjoin his reply. It was written instantly after reading the said article, without the slightest premeditation, and in great haste, which will account for any little imperfections of style. We think that W. J., and all reasonable men, will be perfectly satisfied now, if they were not before, with the "unquestionable proof" here given, of the purity of blood of the sheep imported by Mr. Collins, from the Rambouillet flock. To those who know Mr. Collins, his word is quite sufficient, without giving any other proof, as he abundantly has here, to verify his assertions.

As to the "unmeasured language" in which these sheep were spoken of by us in the Agriculturist, about three years since, we can only say, that *every word of it is true*; and if W. J., or any candid person will give themselves the trouble to visit the flock now with Mr. Bingham, they will find it so. We have seen hundreds of the early importations of Merinos from Spain, and have been familiar with sheep and wool and its manufacture for upwards of thirty years, and we profess to know something of these matters; we knew also when we wrote, that what we should say respecting the Rambouillet would excite the envy and jealousy of some flock-masters in this country, and we were particularly careful at the time to tell even less than the truth warranted us in saying in their behalf.

"MESSRS. BISHOP AND TRACY:—There appeared in your paper of the 18th inst., an article under the Agricultural head, said to be extracted from the American Agriculturist, communicated by a second person, and apparently vouched for by a third, obviously written in praise of a flock of sheep formerly owned by Mr. Collins, near Hartford, in Connecticut, and stated to be since sold to a Mr. Bingham, of Williston, Vermont, purporting to be from the Rambouillet flock in France.

"Some two or three years since I saw an article praising these sheep in unmeasured language, I think in the Agriculturist, published in the city of New York; and from the high terms in which they were recommended, I was induced to make some inquiries of one or two gentlemen residing in Hartford, respecting them; but to my surprise I learned that they knew little or nothing about them. I have since inquired of several well informed men connected with the wool-growing business, but with no better success. They had seen

them noticed and recommended in the papers, but that appeared to be the extent of their information.

"In 1786 Louis the Sixteenth made a special application to the King of Spain, to allow him to obtain a flock of Merinos. This was granted, and the sheep were driven into France and put on the royal estate of Rambouillet, from which they took their name. In the Revolution those sheep were taken under the patronage of the Convention and subsequent governments. In 1801, Chancellor Livingston, then minister in France, obtained four from that flock, and sent them to his estate in New York, and the Marquis Lafayette, on his return to France from the dungeons of Olmutz, obtained some and put on his estate of Lagrange. Those sheep were undoubtedly well chosen, and much care has been taken of the flock since: but does it follow that the sheep of Mr. Collins were of that flock? In every instance in which high bred Merinos or Saxonies have been imported into this country, they have been accompanied with a certificate from some municipal officer or notary public, proving the breed of the sheep, which certificate was verified by an American Consul, under his official seal and signature. Now, although I have several times seen Mr. Collins' sheep denominated Rambouillet, I have nowhere seen any such proof of their paternity. If they are really Rambouillet, the fact is easily susceptible of unquestionable proof. I must, therefore, take the liberty of asking N. L. N., who appears to have obtained the insertion of the article in your paper, the following questions, which, if satisfactorily answered, will place the matter beyond all doubt: 1st, In what year were those sheep purchased in France? 2d, At what port in France were those sheep shipped? 3d, On board of what vessel were they shipped, naming the vessel and the captain? 4th, Were they accompanied with any certificate of any public functionary in France, and was that certificate verified by the American Consul? 5th, Into what port of the United States were they imported, and in what month and year?

"It must be obvious to every sensible and reflecting man, that any individual who would take the trouble and go to the expense of obtaining Rambouillet sheep from France, would be especially careful to obtain the necessary certificates, proving the purity of their blood. If these questions are not satisfactorily answered, the public have a right to conclude, that Rambouillet is a '*nomme de guerre*,' a borrowed name, in order to assist the sale of the flock, and may be placed side by side with the Paular, the Guadaloupes, and the Infantadas, under which name several flocks have found a much more current sale than they possibly could have done from their own intrinsic merit. Apropos of the Infantado flock: the Duke del Infantado joined the patriot side in the Peninsula contest, and his flock was not confiscated or sold, nor did any part of it ever come to this country. W J."

At New York, April 7th, 1846, I, D. C. Collins, of Hartford, Conn., hereby certify, that in the autumn of the year 1839 (I think in the month of October), I personally visited the ancient Park of Rambouillet, in France, and there examined the celebrated Merino flock of rams and ewes, known

as the "*Royal Rambouillet* breeding flock," the blood of which was originally in the latter part of the previous century imported from the choicest *Trashumantes*, or Travelling flocks of Old Spain, of the sort known in Spain as *Leonese*. I took personally from several of the said ewes and rams, samples of their wool, and took down a memorandum of the numbers or figures branded on the horns of the said rams, and by which they were designated, among which rams, so examined, sampled, and noted by me, was the superb ram numbered and branded 349, being the identical ram subsequently owned by me, and extensively known in the United States by the name of Grandee, the sire of the ram branded with a figure 3, sold by me with the flock to Rev. Luther G. Bingham, of Williston, Chittenden County, Vermont. In the spring of the succeeding year, in the month of May, 1840, I purchased at the public sale at Rambouillet, the said ram Grandee, No. 349 (I now still have his *head and horns* preserved); also, at same time and place, another very fine and beautiful, but younger ram, and twenty of the most beautiful, and valuable, and desirable ewes which could be selected from said Royal Rambouillet flock. The business part of the transaction was done mainly with M. Bourgeois, the superintendent of the said Royal flock, and as I understand son of the former M. Bourgeois, now deceased, so long known as having personal charge of said flock, and who is, I understand, still in charge there.

My agent, and temporary shepherd, in bidding or agreeing for price, and disbursing my funds in payment of said sheep, at Rambouillet, provisioning and watching over said flock on the voyage of importation from Europe to the United States, was Monsieur C. P. Bordenave, since and lately a resident of the city of New York, where he has been favorably known as a teacher and translator of the French language, and (as I was informed) associated with Henry C. Deming, Esq., at New York, in the translation of several popular French publications.

The flock was embarked from the port of Havre, in France, in the autumn of the year 1840, on board the ship Illinois, Capt. Eveleig. Messrs. Boyd & Hincken, of this city, were part owners and agents for said ship, and with whom I made bargain and arrangements for passage of said sheep, before the ship sailed from this country for Europe.

The flock was landed at New York in the autumn of that year (1840), I think in the month of October, without the loss of a single sheep. Young Mr. Olmsted (then a lad of twelve or fifteen years), second son of John Olmsted, Esq., of Hartford, Conn., was a passenger in the said ship Illinois, in care of M. Bordenave, with the said flock from France, to the United States, and can, if needed by Mr. Bingham, verify the fact of the said importation, as herein stated. Whether M. Bordenave is *still* in this country, or whether he has lately returned to France, I am not aware. If he is still in the United States he can verify and make oath to all the foregoing.

The said flock, with the exception of some of the young lambs, was never parted with, or sold by

me, till late last fall, when I sold the entire remaining flock, for a valuable and satisfactory consideration, to Rev. Luther G. Bingham, of Williston, Chittenden County, State of Vermont, since which time I have had no pecuniary interest whatever in the sheep. The youngest imported buck, together with several of the young rams, and one or two of the imported ewes, were killed by dogs in my yard at Hartford, in the winter of 1841-2. Most of the original ewes imported by me were rather old, as I chose to select such in preference to young ewes; of course most of the old ewes are now dead and gone. Some of the said old ewes bred but once or twice after reaching this country. That was the case with the dam of Mr. Bingham's present choice stock buck, branded on the horn with the figure 3. I raised but that one ram lamb from her before she died. She was one of the best pure Merino ewes I ever saw—distinguished for fineness and softness, as well as great closeness and weight of fleece, very *yolky*, but not at all gummy. Superior judges of sheep and wool expressed the opinion that in her prime, in her younger and best days, she must have cut a fleece of probably seven pounds of washed wool. She was a sheep with a large, thick-looking, muffled neck, with some considerable loose skin on the body, with decidedly SHORT legs, well woolled all over, legs included. Until I sold the flock to Mr. Bingham last fall, I never sold any ewes, old or young, to any person, save one or two old ones which had long ceased breeding, and went to the butcher not known as being from my flock.

I never took the trouble, nor did I deem it needful, to procure any certificate of consuls, as to the genuineness or authenticity of my imported Merino flock. Such things are, of course, easily and cheaply obtained by those who need, or feel the need of them.

There is no shadow of doubt as to the authenticity or purity of the breeding of the flock, since it arrived in this country from Europe, up to the time when I disposed of it, as herein stated, to Rev. Mr. Bingham. Further this deponent saith not at present, though he has no reasonable doubt that the purity of the breeding of said flock will hereafter be carefully watched over by the present owner, whose character and qualifications, I believe, entitle him to great confidence.

Mr. Burnham, Melanthon Hudson's farmer, at Oakland (or Hockavum Bridge), near Hartford, Conn., came to New York, in my employment, and took the said imported Merino flock from the ship Illinois, in the fall of 1840, and delivered the sheep at my yard at Hartford. DAVID C. COLLINS.

*Witness, A. Longett.*

W. J. asserts in his article above, that no part of the flock of the Duke del Infantado ever came to this country—meaning the United States. To show that he is entirely mistaken in this matter, we addressed Mr. Charles Henry Hall, of Harlem, N. Y., for a corroboration in writing of what he had frequently told us in conversation. We subjoin his reply:—

The Duke del Infantado, it is true, joined the patriot cause, and went ambassador to England

from the Cortes, at the time Ferdinand was detained in France, and returned to Cadiz when that city was in a state of siege. There I was introduced to the Duke, by the United States ambassador, Mr. Ewing. His flocks, he informed me, were in positions of safety from the contending armies, in various parts of Spain—some of them in Andalusia. The result of my interview was, a purchase from the Duke, of a flock of 400 sheep, by myself and associates, which were shipped to Virginia, consigned to Messrs. Brown & Rives, at Richmond. Subsequently there were obtained from the Duke 2,000 more sheep, having his mark (a brand of Y upon the side of the face of the sheep), which were shipped to New York and Philadelphia, for account of Commodore Charles Stewart, Consul Richard S. Hackley, myself, and others. Of one of the cargoes, Chancellor Livingston had a large lot of my Infantado sheep, which he purchased of my agent, Mr. Henry Ward; and I think in some of his writings he speaks of the high estimation in which he held the flock of the above-named Duke. The invoices of these sheep, and the result of the shipments, I have among my papers, and will select them out hereafter for the inspection of Mr. Allen.

CHAS. HENRY HALL.

#### AGRICULTURAL CHEMISTRY AND GEOLOGY.—No 6.

Q. Of what substances do the different kinds of grain usually consist?

A. They consist chiefly of three substances, starch, gluten, and oil or fat.

Q. What proportion of each of these usually exists in wheat?

A. 100 lbs. of wheat flour contain about 50 lbs. of starch, 10 lbs. of gluten, and 2 or 3 lbs. of oil.

Q. In what proportion do they exist in oats?

A. 100 lbs. of oats contain about 60 lbs. of starch, 18 lbs. of gluten, and 6 lbs. of oil.

Q. What do potatoes and turnips principally consist of?

A. Their principal constituent is water.

Q. How much water is contained in 100 lbs. of potatoes?

A. 100 lbs. of potatoes contain about 75 lbs. of water.

Q. How much water is contained in 100 lbs. of turnips?

A. 100 lbs. of turnips contain about 80 lbs. of water.

Q. What quantity of starch do potatoes contain?

A. 100 lbs. of potatoes contain from 15 to 20 lbs. of starch.

Q. Are these proportions of starch, gluten, &c., always the same in the same grain or root?

A. No. Some varieties of wheat contain more gluten than others, some varieties of oats more oil than others, and some varieties of potatoes more starch than others.

Q. Have the soil and climate any influence upon the proportion of these ingredients?

A. Yes; the wheat of warm climates is said to contain more gluten, and the potatoes and barley grown upon light or well drained land, more starch.

Q. When grain or potatoes are burned, do they leave any inorganic matter or ash?

A. Yes, they all leave a small quantity of ash when burned.

Q. Of what does this ash consist?

A. It consists of the phosphates of potash, soda, lime and magnesia, of common salt, and other saline substances.—*Professor Johnston.*

#### SUNDRY ITEMS.

*Chinese Tree Berries poisonous to Pigs.*—I have just had the misfortune to lose five of my finest Berkshire pigs in twelve hours, by eating the berries of the Chinese trees (*a*), which are now dropping. They were two months old at the time, and had not been where the berries grew, before the day they died.

*Orchard.*—I have just finished pruning my orchard, which contains 40 kinds of the best northern and southern apples; 30 kinds of peaches; 12 kinds of pears; 6 kinds of plums; 4 kinds of cherries; 2 kinds of apricots; 2 kinds of nectarines; and 2 kinds of grapes.

*Corn Bread.*—I send you a receipt for making corn bread, such as is used at every meal at my house. I have stopped at nearly all the fashionable hotels in the Union, and never have found anything that has equalled it. It should be tried by every one who wishes to have a superior bread.

Take one egg well beaten, a half pint of thick cream, Indian meal sufficient to form a thick batter, a small quantity of salt; add half a teaspoonful of saleratus, dissolved in a small quantity of water; after mixing thoroughly, put it into the pans or oven, and bake immediately. E. J. CAPELL.

Centreville, Miss., April 15, 1846.

(a) These trees we presume are what are commonly called the "Pride of China" at the South, and "Azedarach" throughout Europe.

#### OYSTER-SHELL LIME A PREVENTIVE OF THE POTATO DISEASE.

We have frequently recommended the application of lime to the potato crop, as a preventive of the disease so destructive at present to this valuable root. A correspondent sends us the following report at a meeting of the Brooklyn Institute, from the Star, of its application to a crop of potatoes, raised by Mr. Charles Nadansky, of North Hempsted, Long Island, which is so conclusive of the good effect of shell lime, that we give it in full for the benefit of our readers, trusting that they will profit from the example of an intelligent practical farmer.

That the piece of land planted is about one acre; and was planted in the spring of 1845; that all of it except about one fifth was manured at the time of planting in the usual way, with farm yard dung in the hills; that a strip in the middle of the piece, being about a fifth of the whole, was left without dung, and in place thereof about one pint of slackened shell lime was used to each hill; that the yield of the whole was about *one hundred bushels*; that the produce of those grown on lime was estimated at *one third* less than those grown on dunged land, but of a quality very superior, being all sound, very regular as to size, fair, without a diseased or decayed tuber in them at the time of digging up, whereas those grown on the manured part were very irregular as to size, of an ill shape, watery,

and had a large portion of decayed tubers among them at the time they were dug up, and the damage was such as to excite much apprehension that they would not keep, and, in consequence, 70 bushels were sold.

And further, that early in the fall of 1845, four bushels from the limed, and *twenty-one and a half* from the dunged land, were each made quite dry, by being spread and turned about on the barn floor; that in this process of drying, there was among the dunged parcel a large portion which had become rotten and worthless, but of those from lime not one was discovered unsound; that when thus dried, they were placed in piles, and as they were thus placed, they were sprinkled (so as to whiten every tuber) with air slackened lime, and covered, first with rye straw, and then with earth in the usual way; that in April, 1846, the piles or heaps were opened, and from the 4 bushels of those grown on lime, 21 tubers only were found to be unsound, while from the 21½ bushels from the manured land nearly 2 pecks were in a decayed state; and, further, that at the time the above named were piled and buried, one barrel of the dunged crop was set away in a coal cellar, and without being sprinkled with lime, and in the spring, that is to say, in the month of April, upon examination there were found to be about the same proportion of decayed tubers as in the other part of the same crop.

#### AGRICULTURAL PUBLICATIONS.

SINCE January I have received the Agriculturist for 1846, regularly. I am so much pleased with it that I feel disposed to be one among its patrons. Its contents are so much of the common every day order of things, that they may be deemed not only practical, but very useful and instructive. Such should be the works devoted to agriculture; as our callings are adapted to the most useful, practical and the earliest method to suit the purposes we are engaged. Anything mysterious, complicated, or extravagant, does not suit the farmers of our country. We are yet in our infancy in our occupations; as such, we stand in need of plain instruction. Step by step we must learn, and not be tutored too rapidly, for fear of too sudden advancement, not knowing the grounds we have passed over. Plain and useful instruction we need, so that when we read we can understand; and if we endeavor to carry the lessons into the field, let it be such as can be profitably bestowed. When agricultural works are aiming at the mysterious, and remote sciences, they at once lose their usefulness to the common planter; for in our day and time, we are neither prepared nor competent to carry them into execution; it is "as pearls cast before swine." The instruction we most need, is the most easy and ready modes of carrying out our practical duties to the most advantage and profit. The mechanic arts are of value to us; the time and manner of procuring green timber for seasoning for use; the kinds best adapted for certain purposes; those most durable and best to be applied for wet or dry places; all such lessons are useful, as they are constantly needed. The stock department, and hints on domestic and rural economy, are highly necessary.

Eufaula, Ala.

JNO. H. DENT.

## MR. TUDOR'S GARDEN.

THIS superb garden is at Nahant, a rough, rocky, narrow peninsula, three or four miles long, jutting boldly into the sea, from the low sandy beach of Lynn, seven miles northeast of Boston. Being open to every ocean breeze, and with superior bathing and fishing ground, it is a delightful summer retreat for the citizens of the adjacent towns, and has long been quite a fashionable watering place for the public at large. Several spacious hotels crown the dark cliffs of the south end of Nahant, while picturesque cottages are scattered here and there, occasionally varied by groups of farm buildings, pleasing for their tidiness, or the reverse, according to the means and tastes of their several occupants. The surface of this peninsula is composed mostly of rocks, or hard, dry gravel; profitable gardening, therefore, much less farming, is nearly out of the question. In addition to the want of a good soil, the night and mornings are cold; and in the storms on the coast, the wind sweeps across the peninsula with great violence, loading the air and saturating the earth with salt spray from the sea. Under these circumstances, few shrubs and trees, and these of a peculiar kind only, can be reared here without strong, high shelter, while growing vegetables and grain are precarious. But there are so many persons at present residing at Nahant during the summer season, that gardens have become quite a desideratum.

Various schemes have been devised for a more successful growth of fruits and vegetables here, but nothing has been found to answer so well as ample protection. Among those who have adopted this most extensively and successfully, is Mr. Frederic Tudor. His garden comprises about four acres, and is filled with nearly every delicacy of flower, fruit, and vegetable, which it is possible to grow in the climate of Nahant. His method of protection consists of a series of fences. The outside line is 16 feet high, made of large cedar posts, deeply sunk and braced in the ground, connecting with joists 3 by 5 inches, to which slats or pickets, 3 inches wide and one inch thick, of the same length as the posts, are nailed in an upright position 2 inches apart. To this fence espaliers of the hardiest kinds of fruit trees are trained. A second fence of the same fashion and materials, but not quite so high, is run round the garden a short distance from the first. Then comes a third fence, with others to the number of nearly one hundred, short and long, running off at different angles from the first line, making a complete labyrinth of the garden. To these shorter fences are trained apricots, nectarines, peaches, grapes, and other delicate fruit. In another part of the garden is a peachery by itself, of 300 trees, grown by the sides of short slatted fences, a few feet apart, protected in front by a thick hedge of dwarf willow. One would be surprised to find what a difference these fences make between the atmosphere of the garden and that surrounding it. Although it was in the month of July when we visited the garden, without, the air was chilly and blustering, within, bland and warm. Several kinds of fruits were in season, all of which we tasted, and found them as delicious as those grown in a much milder climate.

We found several other things here well worthy of record: for example, Mr. Tudor's contrivances with stones and different kinds of substance, such as peat, forest leaves, &c., to retain moisture there, the soil being excessively dry. This garden is well worthy of the visit of amateurs; for, taking it all in all, it is quite unique, and an object of no little curiosity. We have never met with anything like it on so extensive a scale, either in this country or in Europe; and we are informed that its opulent owner, with great liberality, allows all respectable applicants to walk over it at their leisure.

## AMERICAN AGRICULTURAL ASSOCIATION.

THIS Institution held its regular meeting on Wednesday evening, May 6th. Although the number in attendance was small, the subjects discussed were not deficient in interest.

*Alpaca Fund.*—Mr. Moses Barran, of Mount Morris, N. Y., announced through the Treasurer of the Association, that he had subscribed \$200 towards the enterprise of introducing the Alpaca into the United States.

*Syrian Millet.*—S. B. Parsons, who had recently returned from the South, stated that the Syrian millet (*Sorghum halepense*) is successfully cultivated in Carolina and Georgia, from seeds procured from the banks of the Nile. This species of grass, he said, has a tuberous, perennial root, with a succulent top, and has grown five feet high on the dry, pine-barrens of North Carolina, and promises to afford a valuable forage for cattle, on the poorest soils of the South, without manure.

*Egyptian Horse Beans.*—Capt. Luther T. Wilson, recently from Egypt, invited the attention of the Society to a few bushels of beans which he had brought from that country, and had deposited for seed in the warehouse of Mr. A. B. Allen, at 187 Water Street, N. Y. He said that these beans grow all over Egypt, but principally in the upper part, and that they are much exported to England as food for horses. He remarked that they brought, at Cairo, seventy cents per bushel, by the cargo, and that the annual amount carried to Europe, he had understood, was 600,000 bushels.

Mr. Amb. Stevens explained the difference between the properties of Egyptian and other beans, and Indian corn, with reference to the feeding of horses, and pointed out the importance of obtaining a kind of bean that is not too stimulating to them, which can be cultivated in the United States as a field crop. He recommended that experiments be made in different parts of the country, with the Egyptian horse bean, both as regards its culture, and applicability as food for horses and other animals; upon which, a committee was appointed, consisting of himself and the chemist of the Association, to analyze and report upon this vegetable, forthwith, through the columns of some of the leading agricultural journals of the day. Mr. Hammersley offered specimens, procured by himself, of the strata of the banks of the Nile, for examination or analysis by the committee.

The Association held a special meeting on Wednesday evening, May 20th, from which they adjourned until the first Wednesday of October of the present year.

### MEDICINAL SPRINGS AND CLIMATE OF FLORIDA.

A HIGHLY respectable and intelligent correspondent from South Carolina, commenting on that part of Mr. Parsons' article on the "Agriculture of Florida," page 118 of our April No., where he speaks of the country around Lake Monroe, says: "This is the *one spot*, where *every invalid* in the United States, seeking a delightful winter resort, will come, if suitable accommodations can be provided for him. The balmiest air; a lovely lake; abundant game; orange groves; sulphur, chalybeate, and iodine springs—all in one neighborhood, and of the *highest virtues*. I prefer the waters to the Saratoga, Virginia, or any European springs I have visited. If you know a thorough Boniface who can command \$25,000 capital, send him out there, and I will guarantee him a large fortune in a few years. If I knew the right sort of man to put there, I would not hesitate a moment to purchase the spot myself."

On showing the above to Mr. Parsons, who has recently returned from Lake Munroe, with improved health, he corroborates all that our correspondent says—speaks very favorably of the mild and equable temperature of the climate, and is of the opinion that the medicinal springs are of the highest value. Living there would be cheap, and of the best kind. Fish, deer, turkeys, and ducks equal to the best canvass-back, are in such abundance, that a single man with his rod and gun, would easily keep a large family at all times liberally supplied with fresh meat of the most delicious kinds. The pastures are green all winter, and cattle cost little to be kept. Mutton, beef, milk, vegetables, eggs, and indeed all farm and garden products are easily attainable. Besides these comforts, oranges, and several other tropical fruits are plenty.

Lake Munroe is only one week's travel from New York, and the whole distance is easily accomplished by railroad and steamboat. The agricultural advantages of the country are considerable. Any one wishing further details on these matters, would obtain them by addressing Mr. S. B. Parsons, Flushing, Long Island.

### THE CHECK OR BEARING REIN.

I AM anxious, in this place, to add my anathema against that inhuman instrument of torture, the bearing-rein. It is no less detrimental to the utility of the animal than it is replete with agony to him. It must have been invented by a savage, and can only be employed by the insensate. Whence the benefit of unbearing a draught-horse when going up hill? Because the head can then be thrown into its natural position, and materially assist by its weight in drawing the load. If it is beneficial to loose the head at that time, it must also be so on other occasions. Look at the elongated mouths of the unfortunate animals thus so wantonly abused—torn by the bit in their unavailing efforts to overcome this truly barbarous instrument! What produces that dreadful disease, poll-evil, but the action of this cruel strap; constraining the head during the violent exertions of the animal, producing inflammation and ulceration of the point upon which

it articulates with the spine? Poll-evil, so generally supposed to originate from blows inflicted on the part, is attributable alone to the gagging-rein. I never saw a horse used entirely for the saddle attacked with this affection. In order to obtain momentary relief from the torment inflicted by the bearing-rein on the poll and mouth, the poor creature is compelled incessantly to toss up his head. By thus strapping down the head you say, practically, "I expect you to draw a certain weight, but I will take away part of your power of doing so." Some have urged that the bearing-rein contributes to the safety of the animal, who, without it, would be more liable to come down. However applicable such an argument may be to those employed in quick draught—though even with them the utility of this instrument is not only exceedingly doubtful, but fast giving way to a more rational method of treatment—it assuredly does not apply to cart-horses, for little fear is ever entertained of their falling; and broken knees, so common among the faster breeds, are rare amongst them.—*The Horse in Health and Disease.*

**HOW TO MAKE A HORSE CARRY A GOOD TAIL.**—The peculiar manner in which an Arab horse carries his tail has for a long time excited admiration. It results from the form of the croup, which may itself be an effect of art continued for a long series of ages. It is possible that this deviation in the position and carriage of the tail may have been first induced by the invariable Eastern custom of keeping the tail shorn of its hair during the period of growth. The colt is docked early in life, and from that time the dock is kept constantly trimmed until the fourth or fifth year, or even later. This practice, by removing the weight of hair which tended to press down the tail during the colt's growth, has the effect of improving its permanent position, and giving rise, in the course of many generations, to a slight deviation from the usual construction of this part of the frame.—*Ibid.*

**BONE MILLS.**—Scarce a week passes that we do not receive various letters upon the subject of the cost of bone mills and their construction. Bone is an exceedingly hard substance, and very difficult to grind. It requires a mill of great strength, and a steady power of at least fifteen horses. Water or steam is the best power to be applied, that of animals or wind is too unsteady. A good mill could not be constructed for less than \$1,500 so far as we know. We have examined all the cheap concerns costing from \$50 to \$300 each, and candidly say, they are not worth a penny for grinding bones. They are not strong enough, nor can they be made so without costing a high price. After the castings are obtained it requires a mill-wright to set them up and construct the machinery for their operation.

**JERUSALEM ARTICHOKES.**—Last year I planted one peck, and raised nearly 25 bushels. This encouraged me to plant 15 bushels the past month, and if the result prove equal to that of last year, I shall get 1,500 bushels. I planted them in rows 30 inches apart, dropping the cuttings one foot apart in each row. The after culture will be the same as with potatoes.

R. L. C.

## Ladies' Department.

### HINTS TO COUNTRY HOUSEKEEPERS.

My country friends have discovered long ago, or I have been strangely misunderstood, that I am a utilitarian, and therefore they will not be surprised at receiving another lecture upon the advantages of early rising, and household economy as connected with it. The subject can scarcely be brought too frequently into the notice of young people; or borne too constantly in mind by those more advanced in years, who value time as it should be valued, and the acquisition of industrious habits, with the wonderful effects which may be produced by the careful management of the hours not necessarily devoted to sleep. I would have everybody, women and children not excepted, for, to them indeed, I especially address myself, *always employed*. Their occupations might be as various as their convenience should require, or their tastes dictate—from making a loaf of bread or a shirt, embroidering a purse, arranging a bouquet, or painting a flower, up to studying a science or calculating the return of a comet; but they must be at work upon something; even when the object may appear very trifling—unless higher duties are neglected, it is not waste of time,—and is better than doing nothing; above all, never be guilty of so sad a mistake, as to dignify *idleness* by calling it *rest*. If the hands are tired, let the head work by reading and reflection; if the whole frame has been overtired, and the mind sympathizes too much to be exerted to advantage, I should recommend, as the best restorative, a short sleep, and a drive to visit some agreeable neighbor,—nothing restores the exhausted powers more effectually, than interchange of sentiments with a friend. Such extreme cases, however, can seldom happen, except to those who are compelled to labor for a livelihood, or the welfare of their families,—and to them rest is a luxury too rarely enjoyed, and too dearly bought, to be denied or curtailed.

The celebrated Sir William Jones was a very early riser, and when he was asked how he accomplished so much more than other men, he alluded to this habit, and added, “*I never do nothing*”—a maxim which ought to be written in letters of gold, and adopted by every one who aspires to excellence. Children love to rise early, and they should be allowed to continue to do so; they hate idleness, and they should be encouraged to employ their little fingers in stringing beads, making chains of dandelion stems, or any other attractive childish pastime, which would teach those habits of *patient labor*, which, though they may be laid aside for a time, are never entirely forgotten, and are resumed much more easily than they can be acquired, when thought begins to influence the actions of young women.

Let us now suppose that my fair countrywomen think with me, that early rising is essential to the good government of a family—that a late breakfast not only deranges the business of the whole day, but by throwing a portion of it upon the next, will introduce confusion, not soon remedied—and then they will also agree with me that a farmer's family should never breakfast later than six o'clock in

summer, and seven in winter. Habit will soon make this agreeable, and they will wonder at their reluctance to adopt the plan, and be agreeably surprised to find how much too short even the longest day is, for all they wish to accomplish.

In this country, I believe no lady delegates all the household cares to her domestics, however numerous they may be; and in the rural districts, where trained servants are so hard to be obtained, and so difficult to keep, if she wishes to be spared the horrors of *keeping house all day*, she must devote an hour or two every morning, exclusively, to the inspection of every department of her establishment—dairy, poultry-yard, kitchen, and garden—all must be carefully reviewed—and errors reformed before they become confirmed abuses. If she is regular and systematical her labor will be light; much trouble will be saved; and, what is of much more importance than at first sight it appears to be, no one need be put out of temper by being gently reminded that they have broken a *rule*.

The whole family should be ready to take their seats when the coffee is placed upon the breakfast table; no laggard should be waited for, nor indulged in a lazy habit by having hot coffee and muffins ready whenever he thinks proper to make his appearance. I have known a case where three or four *cold*, comfortless breakfasts, operated wonderfully in curing a heavy sleeper of indulging in “the other nap.” As soon as breakfast is over, and while the servants are eating theirs, the lady should wash the cups, glasses, &c., and arrange the pickle plates, castors, salt-cellars, and other matters, for the dinner table—and even trim the lamps, which seldom burn well when left to the care of subordinates.

Each member of a family, daughters and sisters, should have a regular task to perform, which may be taken in rotation, that all may be familiar with every department of housekeeping—but no interference with each other's duties should be allowed, beyond a kind hint to help the ignorant and inexperienced beginner. When the cook has put everything in its proper place, the lady should go into the kitchen to give her orders for dinner; review all that is left of cooked meats from the day before, and direct *clearly* the manner in which the fresh provision is to be dressed; but this she will never be able to do, unless she knows practically as well as theoretically, how to compound each dish she orders—and remembering that “spices are the invisible spirit of cookery, which should rather be suspected than tasted”—she should weigh and measure the seasoning for every new dish, until the cook is a complete mistress of her art.

The dinner table should be arranged every day with the same scrupulous regard to neatness, as if company was expected—it will not be more troublesome, nor more expensive, and the husband or father will never hesitate to carry an unexpected friend home to dine with him; nor feel afraid of finding a soiled table-cloth and unpolished knives; nor the mistress of the family fretting over, and apologizing for a badly-dressed dinner.

Neatness is only another word for taste and elegance, yet the absence of it involves all that is most unlovely in woman. The females of a family should never appear at the breakfast-table in soiled

or tumbled dresses ; no matter how coarse or plain the cotton gown ; with a clean white kerchief, and the hair accurately brushed, it is all that is necessary to a proper appearance. I cheerfully exonerate country ladies generally, from the charge of a want of due attention to cleanliness, but I must confess in sorrow, that, in a few instances, I have been shocked to see fine stockings and embroidered collars worn in the morning, *because they were not clean enough* to appear in during the latter part of the day ; and I have seen, may I never witness it again, a dress of expensive material and delicate texture, dragged out and soiled, put on at breakfast, and worn to the dairy, because none but the family were present ! A poor compliment to one's father or brothers to tell them virtually, if not literally, that their good opinion is of less consequence than that of a casual visitor, whom, perhaps, one may never see again !

E. S.

Eutawah.

## Boys' Department.

### GOOD TOOLS FOR BOYS.—No. 1.

LARGE as the whole body of farmers in our country plainly appears, when compared statistically with the rest of the community, consider but for a moment, and you will gain sight of this most interesting idea, that the whole body of farmer-boys cannot certainly number less than many thousands, and further, that these, growing older with each passing season, are gradually initiated into the various branches of farm work, till, sooner or later, they master the whole.

Edward, for instance, will learn to mow this year, though, last year, he was not ripe for it ; and George prides himself that he is now able to hold plow, whereas, last year, he could only drive the team. Very likely, then, in fact it may be said, necessarily, among these thousands, there will be some unfortunates who begin work too soon, some driven to it by boyish ambition, some by hard masters. It is a hundred-fold better that they should, one and all, begin late than too early, since learning late with health unbroken, and strength whole, far outweighs learning too soon, which most frequently crushes at once the spirit to work, and always the strength.

Working, begin when you will, implies tools now-a-days. Some farmers, apparently in the belief that, give whatever kind of tool you choose to a learner, he must use it,—that a good tool, therefore, in the unpractised hand of the boy is no less misplaced than an elegant copy-book to hold the first rude scrawl, and therefore equally foolish,—conclude readily, too readily, that the boys must not have tools good as the best. Fancying it must be true in everything, that the first attempts should be made with the coarser means, partly led into this by a stinting of cost, money being so precious, and the ways to spend it so many, their habit is harshly to turn off the boy with an old scythe, clumsy, or ill hung, with the rough-handled hoe of rusty blade ; but let their own benevolence have full scope in that tool, which is newest and best—anything, in the view of such economists, anything for boys, but for men the best.

Entirely willing to trust the candor and common sense of farmers once roused, let me ask you (for I cannot conceive) behind what shelter this wretched limping habit of not giving boys good tools, can hide itself to be safe. "Because they have not skill to use such ; because the poorer serve as well to break, and spoil." Shame on such a reason ; a mere spider-web. Long years of teaching from the treasured knowledge of books, long years from the voice of a living teacher your boy is to waste, is he ? and spend, and learn the secrets and motions which are to govern plowing ? It is not long time alone which teaches this ; for some old farmers, it is a pity, but a fact, are "old fools." It is not practice alone, for some hard-working farmers are slaving fools ; but it is time, with practice and with sharp *attention*, which beget skill in farming.

Lately, if not long ago, it has been found that, comparing five men, whose strength is the same, whose skill the same, never mind the ages, but who handle tools of different quality, that hand furnished with the best tools can do the most work ; that is, other things equal, the quantity of work is as the varying quality of the tool, and therefore excellence of tools never fails to confer on the user a certain fragment of advantage. Such advantage, great or small, naturally and properly true kindness and love would lead us to give cheerfully into the hand of whoever has most need of it.

Now, boys are, as an obvious fact, least skilful, having but slight acquaintance of the new business which they could learn, and whose door of entrance had, till then, been locked with grumbling caution. Boys are, beside the other workmen, surely the least strong, or mature, their young gristle not hardened into bone ; they are most sensitive, not nerved to bear disappointing and failing with the courage of men, however manly the youngster may be for his years ; there is no pleasure to them lagging far behind, that those in advance are laughing in the outflow of sociality ; there is an ambition to do well, by a thorough use of his power, which should be fanned, a proper love of praise worthy to be nourished ; their habits of work, which will be apt to last life-long, are now just cooling in the mould where they were run ; the whole character of the lad is like a fused metal, so that you give it what cast you like—these are the boy himself. Who will doubt, then, that the boy most needs the good tools, the good ? aye, even the best, so that, indulgently hearing us so moderate, the only claim is for good tools, ye who heartily love your songs, give them that help. Not fit to use such ! How foolish to say this, and fancy it ! overlook the plain truth, that whoever has the skill, the wit, the tact, so far to conquer the evils and troubles of a bad tool, as to use it well, can use any other. Ability to compass the former must, practically speaking, measure a quart, if that for the latter be a pint. Does not the quart include a pint ?

Candidly confess, then, if the above be so, that the proper conclusion is either that your son is fit to learn the use of good tools, or of none. Thus, far, I have battled in behalf of good tools, for the boys' sake—next for the sake of the master, or the affectionate parent.

LERT.

## FOREIGN AGRICULTURAL NEWS.

By the steamer Britannia we are in receipt of our foreign journals up to May 5th.

**MARKETS.**—*Asbes* an improved demand. *Cotton* was firm, with an upward tendency. The stock on hand in Liverpool on the 1st of May, was 800,000 bales, against 860,000 same period last year. *Flour* no change, nor can there be till the corn bill is passed, of which there is a speedy prospect. *Indian Meal* selling freely. *Cheese* had slightly advanced. *Lef* and *Pork* dull. *Naval Stores* sales large. *Tallow* a trifling reduction. *Tobacco* little was doing. *Wool* an increased trade in foreign qualities.

Money was much easier and readily obtained at 3½ to 4 per cent.

*American Provisions* of all kinds were arriving freely in the British ports, and a quick market was anticipated for them, although prices may rate low.

*Early New Potatoes* appeared in the Irish market on the 18th of April. They were of the early crufly kind, planted in January, and were nearly full-sized and perfectly free from disease of any kind.

*An Apple Tree with Blossom and Fruit.*—We paid a visit to an old and esteemed friend, Mr. T. B. Blackburne, at his residence in Cheshire, and, in walking through his garden, saw an apple tree bearing bloom and fruit at the same time. The apples had remained on the tree all through the winter, and appeared likely to continue there to welcome the succeeding year's fruit. We brought one of the apples away, which we send to a mutual friend at New York, as one of the latest novelties from England.

*Guano and the Potato Disease.*—Professor Johnston delivered a lecture on agricultural chemistry to a considerable number of farmers and others interested in agricultural pursuits, in the town of Montrose. In the course of his observations the learned Professor referred to the application of manure to the potato crop, with a view of stopping the progress of the disease. He recommended various applications, such as guano, pounded kelp, and pearl ash, and condemned the use of fermented dung. He stated, that where the dung was the richest the disease was the worst; and that there was least disease where guano was employed.

*Introduction of South American Potatoes into England.*—Potatoes from the Azores, New Granada, Oporto, and Naples, have been received in the garden of the London Horticultural Society, and are about to be planted for the purpose of ascertaining whether a crop of sound potatoes cannot be produced from them. Those from Oporto consist of a pink and white kind. The sample from New Granada was composed of small, but clean fine-looking tubers. All the above-mentioned are apparently quite free from the peculiar disease of last season. Plants of the Yellow Peruvian potato, growing in pots, appeared to be healthy.

*To Effect Great Agricultural Improvements.*—Mr. Mechier says, in considering how these improvements can be most readily effected—it is quite clear that individuals generally have seldom the means, the ability, or the inclination to carry out a perfect system of Agricultural Improvement; it must be done by companies of associated capitalists, the same as our railways and other great undertakings. I will venture to assert, from experience, that there is not, in agricultural undertakings, *one-tithe* of the difficulty or uncertainty that attended railway operations. If there had been such a company, I, for one, would have invested my spare capital in it; but there not being one, I have carried out individually, at no small personal trouble and thought, those improvements which I hope to see some day effected, as a matter of course, by a well-regulated charter, of associated capitalists, who will derive not only a good pecuniary benefit, but the more

enviable gratification of having conferred a valuable boon on their fellow countrymen.—*Farmers' Herald*.

*Improved Method of Managing Farm-yard Manure.*—At a late meeting of the Council of the English Agricultural Society, M. Encoutre submitted his plan of managing farm-yard manure. He said that the greater number of farmers left their manure-heaps exposed to the rain, while the smaller number covered them with earth, but imperfectly, and without entirely preserving them from injury and loss; and he was led to conceive that this object would be most effectually attained by covering the whole of their surface with a layer of tar mixed with lime. This covering, he imagined, would not only be a complete protection against the rain, but would also tend to the attainment of the following objects:—1. The retention of those exhalations which have nitrogen for their chief element, and, in a manuring point of view, are of the greatest value. 2. The watering of the heap by different manuring liquids produced on the farm, or furnished from other sources, should a deficiency exist. 3. The acceleration of the fermentation and decay of the heaps by passing through them different pipes heated by means of steam to a temperature ranging from 60 deg. to 70 deg. F., and supplied by a boiler, of which the original price would not be more than £2 or £3. M. Encoutre also stated that the grain, before being sown, was immersed in a solution of gelatine and starch diluted with brine, and then sprinkled with the manure reduced to a dry and powdery state. Having given this account of his plan, he proceeded to detail the practical results which had been obtained in France by its adoption; from which it appeared:—1. That only one-sixth of manure thus prepared would be required in comparison with the quantity of common farm-yard manure usually applied for the same extent of surface. 2. That the produce of grain was found to be one-sixth greater where his manure had been used. 3. That after two years the same land was found to require only one-half of the original manurings to keep it in the same condition. 4. That the expense attending the application of this manure was 5s. per acre. M. Encoutre, in conclusion, requested the Council to appoint one or more farms in different parts of the country where his experiments might be repeated, and the value of his plan brought to the test of practical trial, expressing his willingness to give his personal attendance to each of the places selected, and to instruct the parties appointed to make the trial in the mode of proceeding.—*Ibid.*

*How to Use Ammoniacal Liquor.*—It should be diluted with four or five times its bulk of water, or till it is nearly tasteless, and used as a top-dressing for grass or young corn, could it be conveniently applied to the latter; or, there may be added to it, in this diluted state, a sufficient quantity of gypsum, or, more directly, sulphuric acid, for the purpose of fixing the ammonia which it contains.—*Ibid.*

*Value of Bone Dust.*—A farmer recently instituted privately some comparative experiments, the results of which proved that bone-dust acts in the cultivation of ground as compared with the best stable manure—1. In respect to the quality of grain, as seven to five. 2. In respect to the quantity, as five to four.—3. In respect to the durability of the energy of the soil, as three to two. It produces several collateral advantages:—1. It destroys weeds. 2. It diminishes the necessity of suffering the land to lie fallow. 3. This concentrated manure, or substitute for manure, is more easy of conveyance, less laborious to spread, and can with facility be applied to the steepest vine yards or other wet lands, either in mountainous countries or in wet meadow land. 4. It renders agriculture practicable with cattle breeding or grazing.—*Ibid.*

## Editor's Table.

**THE BOOK OF ILLUSTRIOS MECHANICS OF EUROPE AND AMERICA.** Translated from the French of Edward Foucaud, by John Frost. D. Appleton & Co., 200 Broadway. Pp. 344, with numerous embellishments. Price \$1. This is an exceedingly interesting and most valuable work, especially for the young mechanic. It shows him what has been done by eminent persons in the trades, thus teaching him by example what he himself is capable of arriving at, if he uses proper industry, economy, and perseverance.

**A TREATISE ON MILCH COWS.** By M. Francis Guenon, with introductory observations, by John S. Skinner. Published by Greeley & McElrath, Nassau Street, N. Y. We have not had an opportunity of examining the living subjects to test the accuracy of the wonderful discovery herein claimed by M. Guenon; but a friend of ours in the country, who took the work in hand, and looked over three separate herds of cows comprising 153 head, embracing all kinds of milkers, from very good down to very poor, informs us, that the "quirls" were far from proving infallible guides in distinguishing their good or bad qualities at the pail. Observations are now making in various places which will fully determine the truth of the criterion. If the book prove not true, still it is of value as a commencement of a new kind of observation on the subject. And yet we think those tests already well known to shrewd judges, of the size and shape of the bag; the texture of its skin; the setting of the teats and their number; and the development of the milky veins in a calf, are more certain evidences of good or indifferent milking qualities, than those here given by M. Guenon.

**A FIRST AND SECOND LATIN BOOK.** By Thomas Kerchever Arnold. Carefully revised and corrected by Rev. J. A. Spencer. From the fifth London Edition. D. Appleton & Co., 200 Broadway. Pp. 333. Price \$1. These volumes are the first of a series of classical school books on the basis of Ollendorf's much and justly admired system—imitation and frequent repetition—just as a child learns its own language.

**A PRACTICAL INTRODUCTION TO LATIN PROSE COMPOSITION.** By the same author and reviser as the above. Appleton & Co., 200 Broadway. Pp. 340. Price \$1. The principal advantages which this work has over those of a similar kind are, that it contains a copious, but concise illustration of Latin synomyms, and a careful and precise notation of the differences of idiom between the Latin and English languages. In addition to this the exercises are wholly in English. We know of none more valuable than the two works above, for the elementary scholar.

**STATISTICS OF THE WOOLLEN MANUFACTURES IN THE U. S.**; containing the number of woollen manufactures in operation in the U. S.; the location; with the names of the owner, firm, or company; the number of cards run by each; and the kind and quality of goods manufactured, &c. Wm. H. Graham, publisher. Pp. 190. Price 50 cents. This is a valuable statistical work, and is prepared with more accuracy and fulness of detail than we could suppose possible.

**A GUIDE TO THE ORCHARD AND FRUIT GARDEN;** or an Account of the most valuable Fruits cultivated in Great Britain. By George Lindley. With additions of all the most valuable Fruits cultivated in America. By Michael Floy, Gardener and Nurseryman, Harlem, N. Y. Published by J. C. Riker, 129 Fulton Street. Pp. 420. Price \$1.50 We are pleased to hail a new and improved edition of this valuable work of Prof. Lindley, Americanized by so experienced a pomologist as Mr. Floy, who says, very truly, that

the superiority of this work consists in the exceeding accuracy of its nomenclature. Mr. L. availed himself of the facilities afforded him by the gardens of the Horticultural Society of London, where fruits of all kinds and from all quarters are cultivated, their characters noted, and their merits or demerits fairly weighed. We need not inform our readers that this is a standard work, and by the valuable additions of Mr. Floy it is almost as necessary to the American as to the English cultivator of superior fruits.

**COAL TAR NOT GOOD FOR FRUIT TREES.**—A correspondent in the Ohio Cultivator states, that a neighbor of his had a large orchard of young apple trees, planted out one year, and a number of fine budded peach trees, some of which had been badly used the winter before by the rabbits; and to all of which he applied last fall, coal tar, laid on with a painter's brush, to the height of two feet from the ground. He says that he found this "a fatal plaster," and they are now all dead!—burnt up, as if *aqua fortis* had been rubbed round their trunks! This is bad enough; but my neighbor, in his unbounded admiration of Downing, had purchased in Cincinnati a barrel of the *black drop*, and insisted upon my using it on some of my beautiful and choice peach trees, which, the spring before, I bought of that excellent nurseryman, S. S. Jackson; and they, too, are all dead!

**A GREAT LAYER.**—A friend informs us, that he has a Dorking hen which laid 142 eggs last year, without sitting. She then sat and hatched out a brood of 14 chickens. Who can beat this?

**AN EXTRAORDINARY POTATO.**—A sweet potato, raised in this town from seed planted in June, was shown to us on Friday last. When first taken from the ground it weighed *fourteen and three quarter pounds*, and measured in circumference *thirty-four inches*. In shape it resembled a turnip more than a potato.—*Newport Rhode Islander*.

**A PROLIFIC COW.**—Mr. Benjamin Eaton, of Bowdoin, Lincoln County, Me., owns a cow, which, within a year, produced *five calves*—the last time, *three heifer calves*—which are all in a thriving condition. The owner intends raising these for his own dairy. Such instances are rare of fruitfulness in cows.

**BEE FEEDER.**—Mr. Elam Bush, of Shoreham, Vt., has just proved a new feeder, constructed by himself. The bees feed actively and with perfect safety, when the sun shines, even in cold weather. It is a square tin box with a glass cover, having a hole through the back. This is to be fastened to the hive, so that the bees can pass out and into the box only.—*N. Y. Mech.*

**SUGAR CROP.**—Mr. P. A. Champomier, of North Carolina, has published a pamphlet giving the detail of the sugar crop of Louisiana last year. The product was 136,650 hds., weighing 207,337,000 lbs. The number of planters is 2,077. In 1844 the number of hds. was 191,324, and of pounds 204,913,000. It should be remarked, however, that in the above estimate of the crop of 1844 the cistern sugar was excluded, while that of the past season is included.

The molasses crop of last year was estimated by Mr. C. at 9,000,000 gals.

**CHERRY AND PEACH LEAVES POISONOUS TO SHEEP.**—A farmer lately turned his sheep into a lot occupied by some cherry trees, which had sent up shoots from the roots; the consequence was, that the sheep partook of the leaves of these shoots, and were soon seen staggering about the lot and tumbling upon their heads. Many of them died, when their stomachs were found to contain large quantities of these leaves, which, all know, abound with *prussic acid*, fatal alike to man and animals. It should be known, too, that the stones and twigs, as well as the leaves of the peach, also contain prussic acid, and are poisonous.

## REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MAY 25, 1846.

ASHES, Pots,	per 100 lbs.	\$3 75	to	63 88
Pearls,	do.	4 06	"	4 12
BALE ROPE,	lb.	5	"	7
BARK, Quercitron,	ton,	24 00	"	25 00
BEANS, White,	bush.	1 12	"	1 25
BEESWAX, Am. Yellow,	lb.	28	"	33
BOLT ROPE,	do.	12	"	13
BONES, ground,	bush.	40	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	16	"	25
Shipping,	do.	9	"	13
CANDLES, Mould, Tallow,	do.	9	"	11
Sperm,	do.	25	"	38
Stearine,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	11	"	12
COTTON,	do.	6	"	11
COTTON BAGGING, Amer. hemp,	yard,	13	"	14
Kentucky,	do.	12	"	13
FEATHERS,	lb.	26	"	34
FLAX, American,	do.	7	"	8
FLOUR, Northern and Western,	lb.	4 50	"	4 75
Fancy,	do.	5 25	"	5 38
Southern,	do.	4 38	"	4 62
Richmond City Mills,	do.	6 00	"	6 25
Rye,	do.	3 00	"	3 12
GRAIN—Wheat, Western,	bush.	93	"	1 11
Southern,	do.	90	"	1 00
Rye,	do.	66	"	67
Corn, Northern,	do.	67	"	69
Southern,	do.	60	"	65
Barley,	do.	52	"	53
Oats, Northern,	do.	42	"	43
Southern,	do.	35	"	37
GUANO	do.	2 60	"	3 00
HAY, in bales,	100 lbs.	65	"	80
HEMP, Russia, clean,	do.	205 00	"	210 00
American, water-rotted,	ton,	105 00	"	185 00
American, dew-rotted,	do.	75 00	"	125 00
HIDES, Dry Southern,	do.	8	"	10
HOPS,	lb.	20	"	35
HORNS,	100.	1 00	"	7 00
LEAD, pig,	do.	4 12	"	4 25
Sheet and bar	lb.	4	"	4 12
MEAL, Corn,	bbl.	3 25	"	3 38
Corn,	hhhd.	15 75	"	16 00
MOLASSES, New Orleans,	gal.	28	"	30
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 50	"	1 75
Pitch,	do.	1 00	"	1 06
Rosin,	do.	58	"	65
Turpentine,	do.	3 50	"	4 00
Spirits Turpentine, Southern,	gal.	30	"	35
OIL, Linseed, American,	do.	64	"	65
Castor,	do.	60	"	73
Lard,	do.	67	"	70
OIL CAKE,	100 lbs.	1 75	"	1 88
PEAS, Field,	bush.	1 50	"	2 09
PLASTER OF PARIS,	ton.	2 87	"	3 00
Ground, in bbls., of 300 lbs.	do.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	7 00	"	9 00
Prime,	do.	4 50	"	5 50
Smoked,	lb.	6	"	9
Rounds, in pickle, do.	do.	4	"	6
Pork, Mess,	bbl.	10 50	"	13 00
Prime,	do.	8 75	"	10 00
Lard,	lb.	6	"	7
Bacon sides, Smoked,	do.	3	"	4
In pickle,	do.	3	"	4
Hams, Smoked,	do.	6	"	10
Pickled,	do.	4	"	7
Shoulders, Smoked,	do.	5	"	6
Pickled,	do.	4	"	5
RICE,	100 lbs.	3 75	"	4 56
SALT,	sack,	1 22	"	1 35
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	6 1/2	"	9
Timothy,	7 bush.	10 00	"	15 00
Flax, clean,	do.	10 00	"	11 00
rough,	do.	9 00	"	10 00
SODA, Ash, cont'd 80 per cent. soda,	lb.	3	"	3
Sulphate Soda, ground,	do.	1	"	—
UGAR, New Orleans,	do.	5	"	7 1/2
SUMAC, American,	ton,	35 00	"	37 50
TALLOW,	lb.	7	"	8
TOBACCO,	do.	3	"	8
WHISKEY, American,	gal.	19	"	21
WOOLS, Saxony,	lb.	35	"	54
Merino,	do.	30	"	30
Half blood,	do.	25	"	35
Common do.	do.	20	"	22

REMARKS.—*Ashes* in fair demand. *Cotton* has receded a shade since the arrival of the *Britannia*. *Flour* in moderate request, with a very large stock on hand. *Grain* of all kinds dull. *Molasses* firm. *Naval Stores* little doing. *Provisions* generally in fair demand. *Cheese* quite brisk. *Rice* dull. *Sugar* firm, and in demand. *Tobacco* in fair request. *Wool* quiet.

• Money is much easier.

Stocks have become quite firm.

The Weather has been very rainy through May, and rather warm. At the South we hear complaints of the backwardness of the Cotton. Sugar, Rice, and Tobacco, are remarkably promising. Wheat generally is looking well, a few fields have been ravaged by the fly. The crops at the North, though rather backward, are promising—grass and hay never more so. Upon the whole the prospects thus far are quite favorable.

To CORRESPONDENTS.—L. T. Talbot, S. M. W. Philips, Prof. Gale, and Solon Robinson, are received.

NEW YORK STATE AGRICULTURAL SOCIETY.—At a meeting of the Executive Committee at Auburn, the past month, on motion of Mr. Steven, it was

Resolved, That no Premium be hereafter given on fine-wooled sheep, except they shall have been shorn at the last preceding shearing season; that the date of the shearing and the age of the fleece be given; that on the sheep and fleece jointly the Premium be awarded; that the Committee consist of five, two of whom at least shall be staplers at the original Constitution of the Committee, and if practicable shall be so at the time of their final action; that satisfactory evidence of the age and identity of the fleeces; the time of shearing and age of the fleece be furnished to the Committee, or there shall no Premium be awarded.

AMERICAN HERD BOOK.—Mr. L. F. Allen informs us that the printed sheets of his Herd Book are in the hands of the binder, and that they will be ready for delivery by the 10th or 15th of this month, at the latest. Subscribers in this vicinity can have their volumes by calling at our office.

IMPORTED SAXON SHEEP.—Four Saxon bucks and four ewes arrived at this port, to our consignment, on the 21st ult., on board ship Atlantic from Bremen. They were selected from the Electoral flocks in Germany, by Mr. John A. Taintor, of Hartford, Conn., one of the best judges of sheep and wool in this country. He was assisted in his choice by Baron de Spreck, one of the most celebrated wool-growers in Europe. In consequence of their being still in their cages while we are writing this paragraph, we cannot examine these sheep as well as we could wish; but they strike us as being by far the largest and best formed Saxons we ever saw—fully equal in size to the largest Merinos. In fact most superb animals, with a noble presence, and showing constitution equal to their size. The fleeces as well as we can judge are very soft and fine, covering the sheep clear down to their toes, and on their forehead and around their eyes. They will shear heavy. These sheep are for Mr. Sam'l C. Scoville, Salisbury, Conn., who has a large flock of native Saxons. He designs them for his own use. We shall endeavor to give the public full particulars of this importation hereafter. We consider it a very important one to the country, and have no doubt Mr. S. will be well paid for his enterprise.

## AYRSHIRE BULLS.

The Subscriber has one three-year old Ayrshire bull for sale, price \$100; also, one three months old, price \$30. They are bred from stock imported by himself, from the best breeds in Scotland. It is believed that they have no superiors in the United States.

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- Ure's Dictionary of Arts, Manufactures, &c. Price \$6.
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